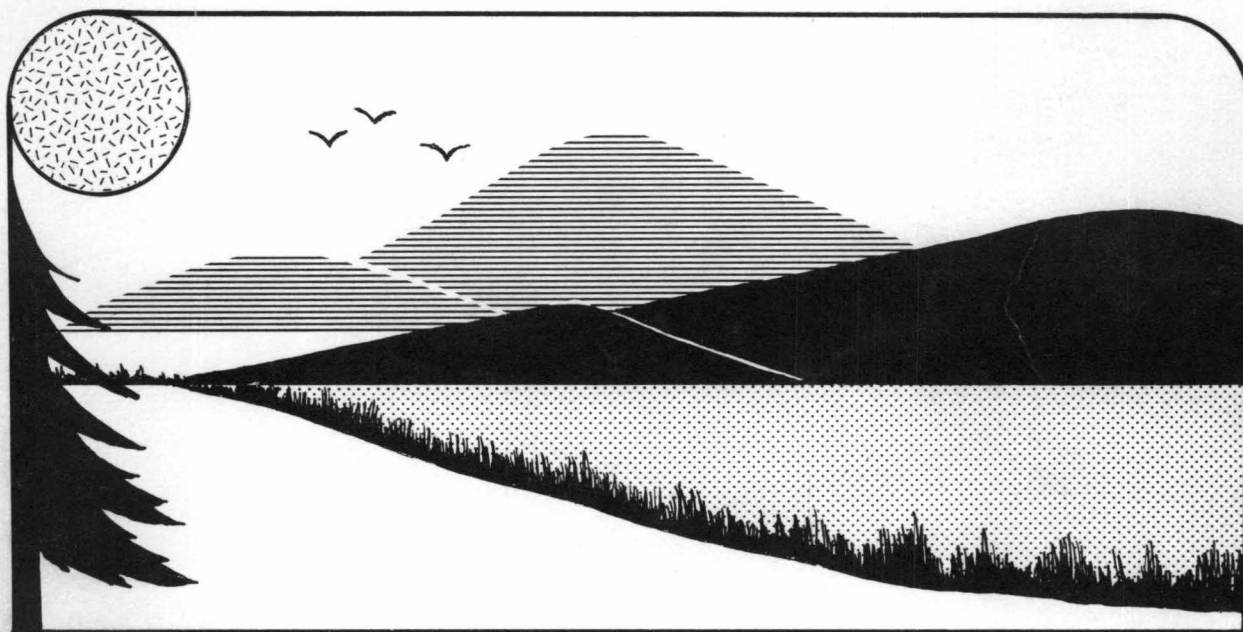


*Working Copy*

# Lichens of the Air Quality Class 1 National Parks

FINAL REPORT

Supported by  
National Park Service  
Contract CX 0001-2-0034



CLIFFORD M. WETMORE  
Botany Department  
University of Minnesota  
St. Paul, MN 55108

JUNE 1983

LICHENS OF THE AIR QUALITY CLASS 1  
NATIONAL PARKS

Final Report

National Park Service  
Contract CX 0001-2-0034

National Park Service Contracting Officer  
James Bennett  
National Park Service - AIR  
P. O. Box 25287  
Denver, Colo. 80225

Clifford M. Wetmore  
Botany Department  
University of Minnesota  
St. Paul, Minnesota

June 1983



# TABLE OF CONTENTS

	Page
Preface.....	1
Introduction.....	2
-ACAD Acadia National Park.....	8
-ARCH Arches National Park.....	13
-BADL Badlands National Park.....	14
o BAND Bandelier National Monument.....	15
-BIBE Big Bend National Park.....	16
-BLCA Black Canyon of the Gunnison National Monument...	23
o BRCA Bryce Canyon National Park.....	24
-CANY Canyonlands National Park.....	25
o CACA Carlsbad Caverns National Park.....	26
o CARE Capitol Reef National Park.....	27
-CHIR Chiricahua National Monument.....	28
-CRLA Crater Lake National Park.....	34
o CRMO Craters of the Moon National Monument.....	36
-EVER Everglades National Park.....	37
-GLAC Glacier National Park.....	39
-GRCA Grand Canyon National Park.....	45 <sup>42</sup>
-GRSM <sup>GRSA</sup> Great Smoky Mountain National Park.....	46 <sup>45</sup>
-GRTE Grand Teton National Park.....	56
o GUMO Great Sand Dunes National Monument.....	57
-ISRO Isle Royale National Park.....	58
-JOTR Joshua Tree National Monument.....	74
-KICA Kings Canyon National Park.....	75
o LABE Lava Beds National Monument.....	76
-LAVO Lassen Volcanic National Park.....	77
o MACA Mammoth Cave National Park.....	78
-MEVE Mesa Verde National Park.....	79
-MORA Mount Rainier National Park.....	81
o NOCA North Cascades National Park.....	87
-OLYM Olympic National Park.....	88
o PEFO Petrified Forest National Park.....	95
-PINN Pinnacles National Park.....	96
o PORE Point Reyes National Seashore.....	97
-REDW Redwood National Park.....	98
-ROMO Rocky Mountain National Park.....	100
-SAGU Saguaro National Monument.....	109
-SEKI Sequoia National Park.....	110
-SHEN Shenandoah National Park.....	112
-THRB <sup>o</sup> Theodore Roosevelt National Park.....	119
-VOYA Voyageurs National Park.....	124
-WICA Wind Cave National Park.....	134
-YELL Yellowstone National Park.....	135
-YOSE Yosemite National Park.....	138
-ZION Zion National Park.....	141
Appendix: Lichens Sensitive to Sulphur Dioxide	
Introduction.....	149
Lichens by sensitivity category.....	150
Alphabetical list of species.....	154
References.....	157

## PREFACE

Under contract USDI CX 0001-2-0034 with the National Park Service, Division of Air Quality, one of the reports to be produced is a list of all known lichens from the park units with mandatory Class 1 air quality for the contiguous United States with indications of sulfur dioxide sensitivity for each species. This report includes this park lichen list with references and the appended list of North American lichens with known sulfur dioxide sensitivity. All work was done at the University of Minnesota with frequent consultation with Dr. James Bennett, NPS-AIR, Denver. Susan Miller assisted in the preparation of this report.

## INTRODUCTION

With the requirement that air quality standards must be maintained in the Class 1 units of the National Park System it is necessary to establish methods of monitoring air quality over large areas as economically as possible. Lichens have proven to be sensitive to sulfur dioxide at low levels and are useful as air quality monitoring organisms.

Lichens are composite plants composed of two different types of organisms. The lichen plant body (thallus) is made of fungi and algae living together in a symbiotic arrangement in which both partners are benefited and the composite plant body can grow in places where neither component could live alone. The thallus has no protective layer on the outside, such as the epidermis of a leaf, so the air in the thallus has free exchange with the atmosphere. Lichens are slow growing (a few millimeters per year) and remain alive for many years and so must have a habitat that is relatively undisturbed in order to survive. Lichens vary greatly in their ecological requirements but almost all of them can grow in places that only receive periodic moisture. When moisture is lacking they go dormant until the next rain or dewfall. Some species can grow in habitats with very infrequent occurrences of moisture while others need high humidity and frequent wetting in order to survive. This difference in moisture requirements is very important in the distribution of lichens.

Lichens are known to be very sensitive to low levels of many atmospheric pollutants. Some are damaged or killed by

levels of sulfur dioxide as low as 13  $\mu\text{g}/\text{cubic meter}$  (annual average) or by nitrogen oxides at 3834-7668  $\mu\text{g}/\text{cubic meter}$  or by other strongly oxidizing compounds such as ozone. Other lichens are less sensitive and a few can tolerate levels up to over 300  $\mu\text{g}/\text{cubic meter}$ . The algae of the thallus are the first to be damaged in areas with air pollution and the first indication of damage is discoloring and death of the algae, which quickly leads to the death of the lichen. Lichens are more sensitive to air pollution when they are wet and physiologically active and are least sensitive when dry. The nature of the substrate is also important in determining the sensitivity to sulfur dioxide since substrates with high pH seem to buffer the fallout and permit the persistence of more sensitive species than one would expect. After the lichen dies it disappears from the substrate within a few months to a year as it disintegrates and decomposes (Wetmore, 1982).

Lichens are able to accumulate chemical elements in excess of their metabolic needs depending on the levels in the substrate and the air and, since lichens are slow growing and long lived, they serve as good summarizers of the environmental conditions in which they are growing. Chemical analysis of the thallus of lichens growing in areas of high fallout of certain elements will show elevated levels in the thallus. Toxic substances (such as sulfur) are also accumulated and determination of the levels of these toxic elements can provide indications of the sub-lethal but elevated levels in the air.

By studying the lichens present in an area with reference to their sensitivities to sulfur dioxide a preliminary indication can be obtained for the air quality of the area. If many or all of the more sensitive species are absent from an area where they would be expected to occur there is a high probability that the air quality has been degraded. If all of the expected sensitive species are present then one can assume that there is no adverse air quality impact.

In determining what lichens to expect one must refer to historical records of lichens from the area or, in the absence of any historical records, one must look at the species present in nearby areas which are ecologically similar with known clean air. Proving this ecological similarity at times can be difficult so the most accurate method is where historical records are available.

Almost none of the National Parks have lichen floras. The information that is available is scattered in regional studies and monographs but has never been brought together in one place. The specimens upon which these reports are based are scattered in many herbaria in North America and even in Europe so it would be impractical to obtain park species lists by visiting all of the herbaria. The following park lichen lists were prepared from the literature to remedy this need. Many of the names used in many of the older publications are no longer correct and many of the old species and genera have been more narrowly defined by recent workers.

This report includes the 44 park units in the conterminous United States. The lists are arranged alphabetically by

park and each list includes all known reports for that park found in the literature. At the beginning of each park list the total number of known species is given with an indication of the approximate completeness of the lichen flora. The terms used are: Unknown-less than 5% of the potential flora; poorly known-5%-30%; moderately known-30%-60%; well known-60%-90%; complete-90% to 100%. There are only 6 parks in the complete category, 1 well known, 6 moderately known, 13 poorly known and 18 unknown. Ten parks have no known lichens. Most of the available literature has been searched including some unpublished scientific reports. The lists also include the lichens in the University of Minnesota Herbarium which has many lichens collected in the parks by the present author and exchange material received from other lichenologists. All names in the lists have been brought up to present generally accepted nomenclature but the identifications of the publishing author have not been checked. In a few cases old nomenclaturally incorrect names have been included (enclosed in brackets) where it is impossible to determine what the correct name should be. In all cases the names reported need to be verified by study of the original collections since they may be based on misidentifications. The references for the park records are cited after the species names. MIN HERB indicates a specimen is in the University of Minnesota herbarium.

In some of the park units no lichens have ever been reported but in Chiricahua National Monument an extensive list

has been published for the surrounding area and these reports are included as potentially occurring in the park. In all other parks only those species actually reported from the park are included. The extensive list of species from Isle Royale National Park probably includes a number of misidentifications.

Those species originally described from material collected in the park (type specimens) are preceded by an asterisk. The type specimens of a species is the original material used in describing a species new to science. A type locality is the place where the type specimen of a species was collected. Some of the parks are the type localities of several species. These type specimens are very important to science because when there are questions about the application of a name to a plant the type specimen must be studied. Sometimes when the type specimen has been destroyed or when the biological variation in a species needs to be studied the type locality is visited for more material of that species. For this reason type localities are very important and need to be preserved. The number of type specimens from each park, if any, is indicated at the top of the park list. Some of the parks that are especially rich in type localities are Great Smoky Mountains with 26, Mount Rainier with 6, Rocky Mountain with 6 and Crater Lake with 4. After each park are listed all of the cited references for that park, including a few that were not seen when compiling the species lists.

Sulfur dioxide sensitivity categories have been indicated where this is known. The appendix lists all North American

species with known sensitivities arranged by genus and species and by sensitivity categories. In the park lists S indicates a sensitive species, I an intermediate species and T a tolerant species. Sensitive species are those which are present below 50  $\mu\text{g}$  per cubic meter (average annual levels), intermediate species are present where levels are between 50  $\mu\text{g}$  per cubic meter and 100  $\mu\text{g}$  per cubic meter and tolerant species are found where levels are above 100  $\mu\text{g}$  per cubic meter. S-I and I-T are intermediate between the three main categories. Refer to Appendix for methods of establishing these sensitivities.



# LICHENS OF THE NATIONAL PARKS

## ACAD - ACADIA NATIONAL PARK

Total number of species = 136 : Moderately well known

- I Alectoria sarmentosa (Ach.) Ach.: Davis, 1964b, MIN HERB
- Anaptychia palmulata (Michx.) Vain.: MIN HERB
- Arthonia radiata (Pers.) Ach.: Plitt & Pessin, 1924
- Aspicilia gibbosa (Ach.) K rb.: Plitt, 1927
- S Bryoria furcellata (Fr.) Brodo & Hawksw.: Davis, 1964b,  
MIN HERB
- I Bryoria fuscescens (Gyeln.) Brodo & Hawksw.: Brodo &  
Hawksworth, 1977
- Bryoria nadvornikiana (Gyeln.) Brodo & Hawksw.: Davis,  
1964b
- S Bryoria trichodes (Michx.) Brodo & Hawksw.: MIN HERB
- S Bryoria trichodes (Michx.) Brodo & Hawksw. subsp.  
trichodes: Brodo & Hawksworth, 1977
- Buellia disciformis (Fr.) Mudd: Plitt & Pessin, 1924,  
Imshaug, 1951
- I Buellia stillingiana J. Stein.: Imshaug, 1951\**Calyptina diandra*
- S-I Candelaria concolor (Dicks.) Stein: Plitt & Pessin, 1924,  
Plitt, 1927
- Catillaria sp.: Davis, 1964b
- S-I Cetraria ciliaris Ach.: Davis, 1964b
- Cetraria halei W. Culb. & C. Culb.: MIN HERB
- Cetraria hepatizon (Ach.) Vain.: MIN HERB
- I Cetraria pinastri (Scop.) S. Gray: MIN HERB
- I Cetraria sepincola (Ehrh.) Ach.: MIN HERB
- Cetrelia cetrarioides (Del. ex Duby) W. Culb. & C. Culb.:  
MIN HERB
- Cetrelia chicitae (W. Culb.) W. Culb. & C. Culb.: MIN  
HERB
- Cetrelia olivetorum (Nyl.) W. Culb. & C. Culb.: MIN HERB
- Chaenotheca chrysocephala (Turn.) Th. Fr.: Davis, 1964b
- Cladonia arbuscula (Wallr.) Rabenh.: Davis, 1964a, MIN  
HERB
- Cladonia boryi Tuck.: MIN HERB
- Cladonia carassensis Vain.: MIN HERB
- Cladonia cariosa (Ach.) Spreng.: Riddle, 1909
- Cladonia caroliniana Schwein. ex Tuck.: Davis, 1964a
- Cladonia cenotea (Ach.) Schaer.: MIN HERB
- Cladonia chlorophaea (Fl rke ex Somm.) Spreng.: Davis,  
1964a
- I Cladonia coniocraea (Fl rke) Spreng.: Davis, 1964a, MIN  
HERB
- Cladonia crispata (Ach.) Flot.: MIN HERB
- I Cladonia cristatella Tuck.: Plitt, 1927, Davis, 1964a,  
MIN HERB
- Cladonia elongata (Jacq.) Hoffm.: MIN HERB
- Cladonia furcata (Huds.) Schrad.: Davis, 1964a, MIN HERB
- Cladonia gracilis (L.) Willd.: Davis, 1964a, MIN HERB
- Cladonia grayi Merr. & Sandst.: MIN HERB
- Cladonia maxima (Asah.) Ahti: MIN HERB

- Cladonia ochrochlora Flörke: MIN HERB  
Cladonia pyxidata (L.) Hoffm.: MIN HERB  
Cladonia rangiferina (L.) Wigg.: Plitt, 1927, Davis, 1964a, MIN HERB  
Cladonia squamosa (Scop.) Hoffm.: Davis, 1964a, MIN HERB  
Cladonia stellaris (Opiz) Pouz. & Vezda: MIN HERB  
Cladonia terrae-novae Ahti: MIN HERB  
Cladonia turgida (Ehrh.) Hoffm.: Davis, 1964a, MIN HERB  
Cladonia uncialis (L.) Wigg.: Davis, 1964a, MIN HERB  
Conotrema urceolatum (Ach.) Tuck.: Plitt & Pessin, 1924  
Dimerella diluta (Pers.) Trev.: Davis, 1964a  
I Evernia mesomorpha Nyl.: Davis, 1964b, MIN HERB  
Haematomma elatinum (Ach.) Mass.: Culberson, 1963, MIN HERB  
I Haematomma ochrophaeum (Tuck.) Mass.: Davis, 1964b, MIN HERB  
Hypogymnia enteromorpha (Ach.) Nyl.: Davis 1964b, MIN HERB  
Hypogymnia krogii Ohls.: MIN HERB  
I Hypogymnia physodes (L.) W. Wats.: Plitt & Pessin, 1924, Berry, 1941, Davis, 1964a, MIN HERB  
S Hypogymnia tubulosa (Schaer.) Hav.: MIN HERB  
Lasallia papulosa (Ach.) Llano: Llano, 1950, MIN HERB  
Lasallia pensylvanica (Hoffm.) Llano: Llano, 1950, MIN HERB  
Lecanora caesiorubella subsp. caesiorubella Ach.: Imshaug & Brodo, 1966  
I Lecanora pallida (Schreb.) Rabenh.: Plitt & Pessin, 1924  
Lecanora pulicaris (Pers.) Ach.: MIN HERB  
I Lecanora subfusca (L.) Ach.: Davis, 1964b  
I Lecanora symmictera Nyl.: MIN HERB  
Lecanora varia (Ehrh.) Ach.: Plitt & Pessin, 1924  
Lecidea sp.: Davis 1964a  
S Lecidea vernalis (L.) Ach.: Plitt & Pessin, 1924  
Lepraria finkii (B. de Lesd. in Hue) ined.: MIN HERB  
Lepraria membranacea (Dicks.) Vain.: Davis, 1964b  
[Leptogium tremelloides (L.) S. Gray: Plitt & Pessin, 1924 misident.]  
Lopadium pezizoideum (Ach.) Krb. Davis, 1964b  
S Lobaria pulmonaria (L.) Hoffm.: Plitt & Pessin, 1924, Davis, 1964b, MIN HERB  
Lobaria quercizans Michx.: Jordan, 1973  
Micarea nitschkeana (Lahm ex Rabenh.) Harm.: MIN HERB  
I Mycoblastus affinis (Schaer.) Schauer: MIN HERB  
I Mycoblastus sanguinarius (L.) Norm.: Davis, 1964b, MIN HERB  
I Nephroma laevigatum Ach.: Wetmore, 1960, MIN HERB  
Ochrolechia pallescens (L.) Mass.: Davis, 1964b  
I Parmelia caperata (L.) Ach.: Plitt & Pessin, 1924, Davis, 1964b, MIN HERB  
Parmelia centrifuga (L.) Ach.: MIN HERB  
[Parmelia conspersa (Ehrh. ex Ach.) Ach.: Plitt, 1927, Berry, 1941 misident.]  
Parmelia crinita Ach.: Davis, 1964b, Hale, 1965  
Parmelia galbina Ach.: Plitt & Pessin, 1924

- I Parmelia rudecta Ach.: Plitt & Pessin, 1924, Davis,  
1964b, MIN HERB
- I Parmelia saxatilis (L.) Ach.: Plitt & Pessin, 1924,  
Berry, 1941, Davis, 1964b, MIN HERB
- I-T Parmelia subargentifera Nyl.: Plitt & Pessin, 1924
- I-T Parmelia sulcata Tayl.: Plitt & Pessin, 1924, Davis,  
1964b
- I Parmeliopsis aleurites (Ach.) Nyl.: MIN HERB
- I Parmeliopsis ambigua var. capitata Meyer ined.:  
Meyer, 1979, MIN HERB
- Peltigera aphthosa (L.) Willd.: Thomson, 1950
- Peltigera canina (L.) Willd.: MIN HERB
- Peltigera canina var. rufescens (Weis) Mudd: Thomson,  
1950
- Peltigera polydactyla (Neck.) Hoffm.: Thomson, 1950,  
Davis, 1964a
- I Pertusaria amara (Ach.) Nyl.: Plitt & Pessin, 1924, Davis,  
1964b, Dibben, 1980, MIN HERB
- Pertusaria laevigata (Nyl.) Arn.: Davis, 1964b
- Pertusaria macounii (Lamb) Dibb.: Dibben, 1980
- Pertusaria multipunctoides Dibb.: Plitt & Pessin, 1924
- Pertusaria ophthalmiza (Nyl.) Nyl.: Dibben, 1980
- Pertusaria rubefacta Erichs.: Dibben, 1980
- Pertusaria trachythallina Erichs.: Dibben, 1980
- Pertusaria velata (Turn.) Nyl.: Dibben, 1980
- Phaeophyscia rubropulchra (Degel.) Essl.: Thomson, 1963
- I Physcia adscendens (Th. Fr.) Oliv.: Thomson, 1963, MIN  
HERB
- I Physcia aipolia (Ehrh.) Hampe: Thomson, 1963
- I Physcia stellaris (L.) Nyl.: Plitt & Pessin, 1924,  
Thomson, 1963
- Physcia subtilis Degel.: Thomson, 1963
- Pilophorus cereolus (Ach.) Th. Fr.: Yoshimura & Sharp,  
1968b
- I Platismatia glauca (L.) W. Culb. & C. Culb.: Davis,  
1964b, Culberson & Culberson, 1968, MIN HERB
- Platismatia tuckermanii (Oakes) W. Culb. & C. Culb.:  
Davis, 1964b, Culberson & Culberson, 1968, MIN HERB
- Pseudevernia cladonia (Tuck.) Hale & W. Culb.: Davis,  
1964b, MIN HERB
- Pseudevernia consocians (Vain.) Hale & W. Culb.: Davis,  
1964b
- Pseudocyphellaria crocata (L.) Vain.: MIN HERB
- Pycnothelia papillaria (Ehrh.) Duf.: MIN HERB
- I Pyrenula nitida (Weig.) Ach.: Plitt & Pessin, 1924
- S Ramalina calicaris var. canaliculata Fr.: Plitt & Pessin,  
1924
- S Ramalina farinacea (L.) Ach.: Plitt & Pessin, 1924, MIN  
HERB
- S Ramalina pollinaria (Westr.) Ach.: MIN HERB
- Ramalina roesleri (Hochst.) Nyl.: Davis, 1964b, MIN HERB
- Rhizocarpon petraeum (Wulf.) Mass.: Plitt, 1927
- Stereocaulon dactylophyllum Flörke: Riddle, 1910
- Stereocaulon paschale (L.) Hoffm.: Riddle, 1910, MIN HERB
- Stereocaulon pileatum Ach.: Riddle, 1910

- Stereocaulon tomentosum Fr.: Riddle, 1910  
Umbilicaria deusta (L.) Baumg.: Llano, 1950  
Umbilicaria mammulata (Ach.) Tuck.: Llano, 1950, MIN HERB  
Umbilicaria muehlenbergii (Ach.) Tuck.: Llano, 1950, MIN  
 HERB  
Umbilicaria vellea (L.) Ach.: MIN HERB  
 S Usnea filipendula Stirt.: Davis, 1964b, MIN HERB  
 S Usnea florida (L.) Wigg.: Plitt & Pessin, 1924  
 S-I Usnea hirta (L.) Wigg.: Plitt & Pessin, 1924  
Usnea longissima Ach.: MIN HERB  
Usnea merrillii Mot.: MIN HERB  
Usnea mutabilis Stirt.: Davis, 1964b  
Usnea rubicunda Stirt.: Davis, 1964b  
Usnea sp.: Davis, 1964b  
Usnea strigosa (Ach.) A. Eat.: Davis, 1964b  
Usnea subfloridana Stirt.: Davis, 1964b  
Usnea trichodea Ach.: Davis, 1964b  
 I Xanthoria parietina (L.) Th. Fr.: Plitt & Pessin, 1924

# ACAD REFERENCES

- Berry, E. C. 1941. A monograph of the genus *Parmelia* in North America, north of Mexico. *Ann. Missouri Bot. Garden* 28: 31-146.
- Brodo, I. M. & D. L. Hawksworth. 1977. *Alectoria* and allied genera in North America. *Opera Botanica* 42: 1-164.
- Culberson, W. L. 1963. A summary of the lichen genus *Haematomma* in North America. *Bryologist* 66: 224-236.
- Culberson, W. L. & C. F. Culberson. 1968. The lichen genera *Cetrelia* and *Platismatia* (Parmeliaceae). *Contrib. U. S. Nat. Herbarium* 34 (7):449-558.
- Davis, R. B. 1964a. Bryophytes and lichens of the spruce-fir forests of the coast of Maine. I. The ground cover. *Bryologist* 67:189-194.
- Davis, R. B. 1964b. Bryophytes and lichens of the spruce-fir forests of the coast of Maine. II. The corticolous flora. *Bryologist* 67:194-196.
- Dibben, M. J. 1980. The chemosystematics of the lichen genus *Pertusaria* in North America north of Mexico. *Milwaukee Public Museum, Biol.* 5:1-162.
- Hale, M. E. 1965. A monograph of *Parmelia* subgenus *Amphigymnia*. *Contrib. U. S. Nat. Herb.* 36 (5):193-358.
- Imshaug, H. A. 1951. The lichen-forming species of the genus *Buellia* occurring in the United States and Canada. PhD. thesis, Univ. of Michigan.
- Imshaug, H. A. & I. M. Brodo. 1966. Biosystematic studies on *Lecanora pallida* and some related lichens in the Americas. *Nova Hedwigia* 12:1-59.
- Jordan, W. P. 1973. The genus *Lobaria* in North America north of Mexico. *Bryologist* 76:225-251.
- Llano, G. A. 1950. A monograph of the lichen family *Umbilicariaceae* in the western hemisphere. *Off. Naval Res., Washington, D. C. (Navexos P-831)*:1-281.
- Meyer, S. F. 1979. The lichen genus *Parmeliopsis* in North America. MS thesis, Univ. of Minnesota.
- Plitt, C. C. 1927. Succession in lichens. *Bryologist* 30:1-4.
- Plitt, C. C. & L. J. Pessin. 1924. A study of the effect of evaporation and light on the distribution of lichens. *Bull. Torrey Bot. Club* 51:203-210.
- Rand & Redfield *Flora of Mt. Desert Island*. NOT SEEN.
- Riddle, L. W. 1909. Preliminary lists of New England plants, XXIII. *Rhodora* 11:215-219.
- Riddle, L. W. 1910. The North American species of *Stereocaulon*. *Bot. Gaz.* 50:285-304.
- Thomson, J. W. 1950. The species of *Peltigera* of North America north of Mexico. *Amer. Midl. Nat.* 44:1-68.
- Thomson, J. W. 1963. The lichen genus *Physcia* in North America. *Nova Hedwigia, Beih.* 7, viii + 172.
- Wetmore, C. M. 1960. The lichen genus *Nephroma* in North and Middle America. *Publ. Museum, Michigan State Univ., Biol. Ser.* 1:369-452.
- Yoshimura, I. & A. J. Sharp. 1968b. Some lichens from the southern Appalachians and Mexico. *Bryologist* 71:108-113.

ARCH - ARCHES NATIONAL PARK

Total number of species = 12 : Poorly known

- Acarospora fuscata (Schrad.) Arn.: MIN HERB  
Acarospora fuscescens Magn.: MIN HERB  
Acarospora strigata (Nyl.) Jatta: MIN HERB  
Caloplaca arizonica Magn.: MIN HERB  
Caloplaca decipiens (Arn.) J. Stein.: MIN HERB  
Candelariella rosulans (Müll. Arg.) Zahlbr.: MIN HERB  
Dermatocarpon miniatum (L.) Mann: MIN HERB  
Diploschistes gypsaceus (Ach.) Nyl.: MIN HERB  
I Phaeophyscia orbicularis (Neck.) Moberg: MIN HERB  
Staurothele clopima (Walenb. ex Ach.) Th. Fr.: MIN HERB  
Staurothele monicae (Zahlbr.) ined.: MIN HERB  
Staurothele sessilis Magn.: MIN HERB  
Toninia tristis (Th. Fr.) Th. Fr.: MIN HERB

ARCH REFERENCES

BADL - BADLANDS NATIONAL PARK

Total number of species = 4 : Unknown

Caloplaca decipiens (Arn.) J. Stein.: MIN HERB

Lecidella goniophila (Flörke) Krb.: MIN HERB

Staurothele clopima (Walenb. ex Ach.) Th. Fr.: MIN HERB

Rinodina violascens Magn.: Anderson, 1962.

BADL REFERENCES

Anderson, R. A. 1962. The lichen flora of the Dakota sandstone in north-central Colorado. Bryologist 65:242-261.

BAND - BANDELIER NATIONAL MONUMENT

No lichens reported : Unknown



BIBE - BIG BEND NATIONAL PARK

Total number of species = 201 : Completely known

1 species with type locality in the park

- Acarospora albida Magn.: MIN HERB  
Acarospora americana Magn.: MIN HERB  
Acarospora chlorophana (Wahlenb. ex Ach.) Mass.: MIN HERB  
Acarospora fuscata (Schrad.) Arn.: MIN HERB  
Acarospora radicata Magn.: MIN HERB  
Acarospora schleicheri (Ach.) Mass.: MIN HERB  
Acarospora strigata (Nyl.) Jatta: MIN HERB  
Aspicilia caesiocinerea (Nyl. ex Malbr.) Arn.: MIN HERB  
Aspicilia calcarea (L.) Krb.: MIN HERB  
Aspicilia cinerea (L.) Krb.: MIN HERB  
Bacidia umbrina (Ach.) Bausch: MIN HERB *Biatorella microchaeta* MIN  
Buellia aethalea (Ach.) Th. Fr.: MIN HERB *Buellia ambigua* MIN  
Buellia lacteoidea B. de Lesd.: MIN HERB  
Buellia novomexicana B. de Lesd.: MIN HERB  
T Buellia punctata (Hoffm.) Mass.: MIN HERB *Buellia retrofracta* MIN  
Buellia spuria (Schaer.) Anzi: MIN HERB  
Buellia stellulata (Tayl.) Mudd: MIN HERB  
Buellia zahlbruckneri J. Stein.: MIN HERB  
Calicium abietinum Pers.: MIN HERB *Calicium glaucellum* MIN  
Calicium trabinellum (Ach.) Ach.: MIN HERB  
Caloplaca approximata (Lynge) Magn.: MIN HERB  
Caloplaca atroalba (Tuck.) Zahlbr.: MIN HERB  
Caloplaca chrysothalma Degel.: MIN HERB  
Caloplaca cinnabarina (Ach.) Zahlbr.: MIN HERB  
Caloplaca eugyra (Tuck.) Zahlbr.: MIN HERB *Caloplaca ferruginea* MIN  
S Caloplaca flavovirescens (Wulf.) Dalla Torre & Sarnth.: *Cal. festiva* MIN  
MIN HERB  
Caloplaca galactophylla (Tuck.) Zahlbr.: MIN HERB  
Caloplaca lobulata (Flrke) Hellb.: MIN HERB  
Caloplaca microphyllina (Tuck.) Hasse: MIN HERB  
Caloplaca rubelliana (Ach.) Lojka: MIN HERB  
Caloplaca saxicola (Hoffm.) Nordin: MIN HERB  
Caloplaca squamosa B. de Lesd.: MIN HERB  
S-I Candelaria concolor (Dicks.) B. Stein.: Wetmore, 1976,  
MIN HERB  
Candelaria fibrosa (Fr.) Mll. Arg.: Wetmore, 1976,  
MIN HERB  
Candelaria sp.: Wetmore, 1976  
Candelariella aurella (Hoffm.) Zahlbr.: MIN HERB  
Candelariella efflorescens Harris & Buck.: MIN HERB  
Candelariella rosulans (Mll. Arg.) Zahlbr.: MIN HERB *Candelariella*  
*xanthostigma* MIN  
Candelina submexicana (B. de Lesd.) Poelt: Wetmore, 1976,  
MIN HERB  
Cetraria coralligera (W. Web.) Hale: Esslinger, 1973,  
Wetmore, 1976, MIN HERB  
Cetraria fendleri (Nyl.) Tuck.: Esslinger, 1973, Wetmore,  
1976, MIN HERB  
Cladonia bacillaris (Ach.) Nyl.: Wetmore, 1976, MIN HERB

*Chrysothrix chlorina* MIN

- Cladonia balfourii Cromb.: Wetmore, 1976, MIN HERB  
Cladonia chlorophaea (Flörke ex Somm.) Spreng.: Wetmore, 1976, MIN HERB  
Cladonia pyxidata (L.) Hoffm.: Wetmore, 1976, MIN HERB  
Coccocarpia cronia (Tuck.) Vain.: Wetmore, 1976, MIN HERB  
Collema coccophorum Tuck.: Degelius, 1974, Wetmore, 1976, MIN HERB  
Collema conglomeratum Hoffm.: Wetmore, 1976, MIN HERB  
Collema furfuraceum (Arn.) Du Rietz.: Wetmore, 1976, MIN HERB  
Collema tenax (Sw.) Ach.: Wetmore, 1976, MIN HERB *Collema tenax min*  
Collema tuniforme (Ach.) Ach.: Wetmore, 1976, MIN HERB  
Dermatocarpon hepaticum (Ach.) Th. Fr.: Wetmore, 1976 = Dermatocarpon lachneum  
Dermatocarpon lachneum (Ach.) A. L. Sm.: MIN HERB  
Dermatocarpon miniatum (L.) Mann.: Wetmore, 1976, MIN HERB  
Dermatocarpon moulinsii (Mont.) Zahlbr.: Wetmore, 1976, MIN HERB  
Dermatocarpon tuckermanii (Rav.) Zahlbr.: Wetmore, 1976, MIN HERB  
Dimelaena oreina (Ach.) Norm.: Sheard, 1974, Sheard, 1977, MIN HERB  
Diploschistes scruposus (Schreb.) Norm.: MIN HERB  
Dirinaria aspera (Magn.) Awasthi.: Wetmore, 1976, MIN HERB  
Dirinaria frostii (Tuck.) Hale & W. Culb.: Wetmore, 1976, MIN HERB  
Endocarpon pusillum Hedw.: MIN HERB  
Gonohymenia sp.: Wetmore, 1976, MIN HERB *G. minnesotensis*  
Gonohymenia cribillifera (Nyl.) Henss.: Wetmore, 1976, MIN HERB  
Haematomma subpunicum (Müll. Arg.) B. de Lesd.: Culbertson, 1963, MIN HERB  
Heppia lutosa (Ach.) Nyl.: Wetmore, 1970, Wetmore, 1976, MIN HERB  
Heterodermia appalachensis (Kurok.) W. Culb.: Wetmore, 1976, Wetmore, 1981, MIN HERB  
Heterodermia diademata (Tayl.) Awas.: Wetmore, 1976, Wetmore, 1981, MIN HERB  
Heterodermia domingensis (Ach.) Trev.: Wetmore, 1976, MIN HERB  
Heterodermia granulifera (Ach.) W. Culb.: Wetmore, 1976, MIN HERB  
Heterodermia leucomela (L.) Poelt.: Wetmore, 1976, MIN HERB  
Heterodermia rugulosa (Kurok.) Wetm.: Wetmore, 1976, Wetmore, 1981, MIN HERB  
I Hyperphyscia adglutinata (Flörke) Mayrh. & Poelt: Wetmore, 1976, MIN HERB  
Hyperphyscia syncolla (Tuck. ex Nyl.) ined.: Wetmore, 1976, MIN HERB  
Lasallia papulosa (Ach.) Llano: Wetmore, 1976, MIN HERB  
Lecania erysibe (Ach.) Mudd: MIN HERB  
Lecanora atra (Huds.) Ach.: MIN HERB

- subsp. glaucomodes MIN*  
*subsp. saximontana MIN*
- I Lecanora caesiorubella Ach.: MIN HERB  
Lecanora cenisia Ach.: MIN HERB  
Lecanora chlarotera Nyl.: MIN HERB  
Lecanora chloroleprosa (Wain.) Magn.: MIN HERB  
Lecanora frustulosa (Dicks.) Ach.: MIN HERB  
Lecanora garovaglii (Körb.) Zahlbr.: MIN HERB  
T Lecanora muralis (Schreb.) Rabenh.: MIN HERB  
Lecanora rupicola (L.) Zahlbr.: MIN HERB *Lecanora pinipoda MIN*  
Lecidea anthracophila Nyl.: MIN HERB *Lecanora saligna MIN*  
Lecidea crenata (Tayl.) Stizenb.: MIN HERB  
Lecidea elabens Fr.: MIN HERB  
Lecidea fusca (Schaer.) Th. Fr.: MIN HERB *Lecidea granulosa MIN*  
Lecidea icterica (Mont.) Tayl.: MIN HERB *Lecidea plebeja MIN*  
Lecidea rufonigra (Tuck.) Nyl.: MIN HERB  
Lecidea russellii Tuck.: MIN HERB  
Lecidea scalaris (Ach.) Ach.: MIN HERB  
Lecidea subaglaea B. de Lesd.: MIN HERB  
*Lecidea* Lecidea turgidula Fr.: MIN HERB *tessellate MIN*  
*Xanthorhiza* Lecidella elaeochroma (Ach.) Haszl.: MIN HERB *Lecidea tuckermanni MIN*  
I Lecidella euphorea (Flörke) Hert.: MIN HERB *Lecidella carpathica MIN*  
Lecidella stigmathea (Ach.) Hert. & Leuck.: MIN HERB *Lecanora laticornis MIN*  
Leptogium arsenei Sierk.: Wetmore, 1976, MIN HERB *Lecanora graciliscens MIN*  
Leptogium denticulatum Nyl.: Wetmore, 1976, MIN HERB  
Leptogium furfuraceum (Harm.) Sierk.: Wetmore, 1976, MIN HERB  
Leptogium lichenoides (L.) Zahlbr.: Wetmore, 1976, MIN HERB  
Leptogium milligranum Sierk.: Wetmore, 1976, MIN HERB  
Microthelia aterrima (Anzi) Zahlbr.: MIN HERB  
Mycocalicium parietinum (Ach. ex Schaer.) Hawksw.: MIN HERB  
\* Mycoglaena wetmorei R. Harris ined.: MIN HERB  
S-I Normandina pulchella (Borr.) Nyl.: Wetmore, 1976, MIN HERB  
Ochrolechia alboflavescens (Wulf.) Zahlbr.: MIN HERB  
Ochrolechia arborea (Ljubitz.) Almb.: MIN HERB  
Ochrolechia parella (L.) Mass.: MIN HERB *Ochrolechia rosella MIN*  
Pannaria pityrea (DC.) Degel.: Wetmore, 1976, MIN HERB *Pannaria taveresii MIN*  
Parmelia baltimorensis Gyeln.: MIN HERB  
I Parmelia bolliana Müll. Arg.: Wetmore, 1976, MIN HERB  
Parmelia caperata (L.) Ach.: Berry, 1941, Wetmore, 1976, Wetmore, 1981, MIN HERB  
Parmelia congruens Ach.: Berry, 1941  
Parmelia conspersa (Ach.) Ach.: Berry, 1941, Wetmore, 1976, MIN HERB  
Parmelia coronata Fee: Wetmore, 1976, MIN HERB  
Parmelia crinita Ach.: Wetmore, 1976, Wetmore, 1981, MIN HERB *Parmelia crozalsiana MIN*  
Parmelia dierythra Hale: Wetmore, 1976, MIN HERB  
Parmelia flaventior Stirt.: Wetmore, 1976, Wetmore, 1981, MIN HERB  
Parmelia hababiana Gyeln.: Wetmore, 1976  
Parmelia hypoleucites Nyl.: Wetmore, 1976, MIN HERB  
Parmelia kurokawae Hale: Wetmore, 1976, MIN HERB  
Parmelia laevigata (Sm.) Ach.: Wetmore, 1976, MIN HERB

- Parmelia lineola Berry: Wetmore, 1976, MIN HERB  
Parmelia margaritata Hue: Wetmore, 1976, MIN HERB *Parmelia mexicana* M. J.  
Parmelia neotropicum Kurok. ex Hale: MIN HERB  
Parmelia novomexicana Gyeln.: Wetmore, 1976, MIN HERB  
Parmelia perreticulata (Räs.) Hale: Wetmore, 1976, MIN  
 HERB  
Parmelia praesignis Nyl.: Moore, 1932, Berry, 1941,  
 Culberson, 1962, Wetmore, 1976, Wetmore, 1981, MIN  
 HERB  
Parmelia psoromifera Kurok.: Wetmore, 1976, MIN HERB  
Parmelia pustulifera Hale: Wetmore, 1976, MIN HERB  
 S Parmelia reticulata Tayl.: Wetmore, 1976, Wetmore, 1981,  
 MIN HERB *Parmelia rockii* M. J.  
Parmelia rutidota Hook. f. & Tayl.: Wetmore, 1976, MIN  
 HERB  
Parmelia semansiana W. Culb. & C. Culb.: MIN HERB  
Parmelia soledica Nyl.: Wetmore, 1981, MIN HERB  
Parmelia subolivacea Nyl.: Wetmore, 1976, MIN HERB  
 I Parmelia subrudecta Nyl.: Wetmore, 1976, MIN HERB  
Parmelia subtinctoria Zahlbr.: Wetmore, 1976, Wetmore,  
 1981, MIN HERB  
Parmelia taractica Kremp.: Wetmore, 1976, MIN HERB  
Parmelia tasmanica Hook. f. & Tayl.: Wetmore, 1976, MIN  
 HERB  
Parmelia tinctina Mah. & Gill.: MIN HERB  
 I Parmeliopsis aleurites (Ach.) Nyl.: Wetmore, 1976, MIN  
 HERB *P. arizonica*  
*P. texana*  
Peccania sp.: Wetmore, 1976, MIN HERB  
Peltigera canina (L.) Willd.: MIN HERB  
Peltigera canina var. rufescens (Weiss) Mudd: Wetmore,  
 1976  
Peltigera canina var. spuria (Ach.) Schaer.: Wetmore,  
 1976  
Peltigera collina (Ach.) Ach.: MIN HERB  
Peltula bolanderi (Tuck.) Wetm.: Wetmore, 1976, MIN HERB  
Peltula euploca (Ach.) Oz. & Clauz.: Wetmore, 1970,  
 Wetmore, 1976, MIN HERB  
Peltula michoacanensis (B. de Lesd.) Wetm.: Wetmore,  
 1976, MIN HERB  
Peltula obscurans (Nyl.) Gyeln. var. deserticola  
 (Zahlbr.) Wetm.: Wetmore, 1970, Wetmore, 1976, MIN  
 HERB  
Peltula obscurans var. hassei (Zahlbr.) Wetm.: Wetmore,  
 1970, Wetmore, 1976  
Peltula obscurans var. obscurans: Wetmore, 1970, Wetmore,  
 1976  
Peltula omphaliza (Nyl. in Eckf.) Wetm.: Wetmore, 1970,  
 Wetmore, 1976, MIN HERB  
Peltula placodizans (Zahlbr.) Wetm.: Wetmore, 1970, Wet-  
 more, 1976, MIN HERB  
Peltula polyspora (Tuck.) Wetm.: Wetmore, 1970, Wetmore,  
 1976, MIN HERB  
Peltula radicata (Ach.) Nyl.: Wetmore, 1976, MIN HERB  
Peltula richardsii (Herre) Wetm.: Wetmore, 1970, Wetmore,  
 1976, MIN HERB

- Phaeophyscia adiastrata* Min  
*Phaeophyscia cernohorskyi* n. n.  
Phaeophyscia hispidula (Ach.) Essl.: Wetmore, 1978, MIN  
 HERB
- I-T Phaeophyscia nigricans (Flörke) Moberg: Wetmore, 1981,  
 MIN HERB
- I Phaeophyscia orbicularis (Neck.) Moberg: Wetmore, 1976,  
 MIN HERB
- I Physcia aipolia (Ehrh.) Hampe: Wetmore, 1976, MIN HERB  
Physcia albinea (Ach.) Nyl.: Wetmore, 1976, MIN HERB  
Physcia americana Merr. in Evans & Meyrow.: Wetmore,  
 1976, MIN HERB
- Physcia callosa Nyl.: Wetmore, 1976, MIN HERB  
Physcia convexa Müll. Arg.: Wetmore, 1976, MIN HERB
- T Physcia dubia (Hoffm.) Lett.: Wetmore, 1976, MIN HERB  
Physcia grisea (Lam.) Zahlbr.: Wetmore, 1976  
Physcia mexicana B. de Lesd.: Wetmore, 1976, MIN HERB
- I Physcia stellaris (L.) Nyl.: Wetmore, 1976, MIN HERB  
Physcia wainioi Räs.: Wetmore, 1976, MIN HERB
- ~~T~~ Physconia deterosa (Nyl.) Poelt: MIN HERB  
Pseudevernia intensa (Nyl.) Hale & W. Culb.: Berry, 1941,  
 Wetmore, 1976, Wetmore, 1981, MIN HERB  
Ramalina complanata (Sw.) Ach.: Wetmore, 1976, Wetmore,  
 1981, MIN HERB  
Ramalina ecklonii (Spreng.) Mey. & Flot.: Wetmore, 1976,  
 MIN HERB
- S Ramalina pollinaria (Westr.) Ach.: Wetmore, 1976, MIN  
 HERB  
Ramalina sinensis Jatta: Wetmore, 1976, Wetmore, 1981,  
 MIN HERB
- [Rehingeria cribellifera (Nyl.) Serv.: Wetmore, 1976 =  
Gonohymenia cribellifera]  
Rhizocarpon disporum (Naeg. ex Hepp) Müll. Arg.: MIN  
 HERB  
Rhizoplaca chryssoleuca (Smith) Zopf: MIN HERB  
Rinodina bischoffii (Hepp) Mass.: MIN HERB  
Rinodina iowensis Zahlbr.: MIN HERB  
Rinodina lignicola Sheard ined.: MIN HERB  
Rinodina milvina (Wahlenb. ex Ach.) Th. Fr.: MIN HERB
- S Rinodina papillata Magn.: MIN HERB  
Sarcogyne regularis Körb.: MIN HERB  
Speerschnidera euploca (Tuck.) Trev.: Hafellmer & Egan,  
 1981 MIN HERB  
Staurothele clopima (Wahlenb. ex Ach.) Th. Fr.: MIN HERB  
Sticta weigelii (Insert ex Ach.) Vain.: Wetmore, 1981,  
 MIN HERB  
Synalissa symphorea (Ach.) Nyl.: Wetmore, 1976  
Teloschistes chrysophthalmus (L.) Th. Fr.: Wetmore, 1976,  
 Wetmore, 1981, MIN HERB
- I Teloschistes flavicans (Sw.) Norm.: Wetmore, 1976, Wet-  
 more, 1981, MIN HERB  
Thyrea nigritella Lett.: Wetmore, 1976  
Thyrea pulvinata (Schaer.) Mass.: Wetmore, 1976  
Umbilicaria vellea (L.) Ach.: Wetmore, 1976, MIN HERB  
Usnea arizonica Mot.: Wetmore, 1976, Wetmore, 1981, MIN  
 HERB  
Usnea cirrosa Mot.: Wetmore, 1976, Wetmore, 1981, MIN

HERB

- S-I Usnea diplotypus Vain.: Wetmore, 1976, MIN HERB *Usnea fulvotegens MIN*  
Usnea hirta (L.) Wigg.: Wetmore, 1976, Wetmore, 1981, MIN  
 HERB  
 S-I Usnea subfloridana Stirt.: Wetmore, 1976, Wetmore, 1981,  
 MIN HERB  
Verrucaria virens Nyl.: MIN HERB  
 I Xanthoria candelaria (L.) Th. Fr.: Wetmore, 1976, MIN  
 HERB *Xanthoria elegans MIN*  
 S-I Xanthoria fallax (Hepp) Arn.: Wetmore, 1976, MIN HERB  
 I Xanthoria polycarpa (Ehrh.) Oliv.: Wetmore, 1976, MIN  
 HERB



# BIBE REFERENCES

- Berry, E. C. 1941. A monograph of the genus *Parmelia* in North America, north of Mexico. *Ann. Missouri Bot. Garden* 28: 31-146.
- Culberson, W. L. 1962. Some pseudocyphellata *Parmeliae*. *Nova Hedwigia* 4: 563-577.
- Culberson, W. L. 1963. A summary of the lichen genus *Haematomma* in North America. *Bryologist* 66:224-236.
- Degelius, G. 1974. The lichen genus *Collema* with special reference to the extra-European species. *Symb. Bot. Ups.* 20(2):1-215.
- Esslinger, T. L. 1973. Chemical and taxonomic studies on some corticolous members of the lichen genus *Cetraria* in North America. *Mycologia* 65:602-613.
- Haffelner, J. & R. S. Egan. 1981. Studies on the genus *Speerschneidera*. *Lichenologist* 13:11-26.
- Moore, J. A. 1932. A new species of *Parmelia* from Texas. *Ann. Missouri Bot. Gard.* 19:503-504.
- Sheard, J. W. 1974. The genus *Dimelaena* in North America north of Mexico. *Bryologist* 77:128-141.
- Sheard, J. W. 1977. Paleogeography, chemistry and taxonomy of the lichenized Ascomycetes *Dimelaena* and *Thamnolia*. *Bryologist* 80:100-118.
- Wetmore, C. M. 1970. The lichen family *Heppiaceae* in North America. *Ann. Missouri Bot. Gard.* 57:158-209.
- Wetmore, C. M. 1976. Macrolichens of Big Bend National Park, Texas. *Bryologist* 79:296-313.
- Wetmore, C. M. 1981. Lichens and air quality in Big Bend National Park, Texas. *Bryologist* 84:426-433.

b/k

BLCA - BLACK CANYON OF THE GUNNISON NATIONAL MONUMENT

Total number of species = 6 : Unknown

Phaeophyscia ciliata (Hoffm.) Essl.: Thomson, 1963

Phaeophyscia sciastra (Ach.) Moberg: Thomson, 1963

Physcia aipolia (Ehrh.) Hampe: Thomson, 1963

Physcia caesia (Hoffm.) Hampe: Thomson, 1963

Physcia stellaris (L.) Nyl.: Thomson, 1963

Physconia muscigena (Ach.) Poelt: Thomson, 1963

BLCA REFERENCES

Thomson, J. W. 1963. The lichen genus *Physcia* in North America. *Nova Hedwigia*, Beih. 7, viii + 172.



BRCA - BRYCE CANYON NATIONAL PARK

No lichens reported : Unknown

CANY - CANYONLANDS NATIONAL PARK

Total number of species = 1 : Unknown

Caloplaca tominii Savicz: Thomson, 1982.

CANY REFERENCES

Thomson, J. W. 1982. A further note on Caloplaca tominii  
Savicz in the Americas. Bryologist 85:251.

CACA - CARLSBAD CAVERNS NATIONAL PARK

No lichens reported : Unknown

CARE - CAPITOL REEF NATIONAL PARK

No lichens reported : Unknown

# CHIR - CHIRICAHUA NATIONAL MONUMENT

Total number of species = 192 : Monument - Unknown,  
Surrounding Area - Moderately known

Note: The lichens in this park list were not actually collected in the Chiricahua National Monument, but from the surrounding area.

- Acarospora badiofusca (Nyl.) Th. Fr.: Weber, 1963  
Acarospora chlorophana (Wahlenb. ex Ach.) Mass.: Weber, 1963  
Acarospora fuscata (Schrad.) Arn.: Weber, 1963  
Acarospora schleicheri (Ach.) Mass.: Weber, 1963  
Acarospora smaragdula (Walenb. ex Ach.) Mass.: Weber, 1963  
Arthonia radiata (Pers.) Ach.: Weber, 1963  
Aspicilia alphoplaca (Wahlenb. ex Ach.) Poelt & Leuck.: Weber, 1963  
Aspicilia caesiocinerea (Nyl. ex Malbr.) Arn.: Weber, 1963  
Aspicilia calcarea (L.) K8rb.: Weber, 1963  
Buellia disciformis (Fr.) Mudd: Darrow, 1950, Imshaug, 1951  
Buellia glaziouana var. sensitiva (Zahlbr.) Imsh.: Weber, 1963  
Buellia novomexicana B. de Lesd.: Weber, 1963  
Buellia punctata (Hoffm.) Mass.: Weber, 1963  
Buellia retrovertens Tuck.: Weber, 1963  
Buellia semitensis Tuck.: Weber, 1963  
Buellia spuria (Schaer.) Anzi: Weber, 1963  
Buellia zahlbruckneri J. Stein.: Weber, 1963  
Bryoria furcellata (Fr.) Brodo & Hawksw.: Weber, 1963  
Caloplaca arizonica Magn.: Darrow, 1950  
Caloplaca cerina (Ehrh.) Th. Fr.: Weber, 1963  
Caloplaca chrysophthalma Degel.: Weber, 1963  
Caloplaca cinnabarina (Ach.) Zahlbr.: Weber, 1963  
Caloplaca ferruginea (Huds.) Th. Fr.: Weber, 1963  
Caloplaca flavovirescens (Huds.) Laund.: Weber, 1963  
Caloplaca flavovirescens (Wulf.) Dalla Torre & Sarnth: Weber, 1963  
Caloplaca holocarpa (Hoffm.) Wade: Weber, 1963  
Caloplaca microphyllina (Tuck.) Hasse: Darrow, 1950, Weber, 1963  
Caloplaca sideritis (Tuck.) Zahlbr.: Weber, 1963  
Candelaria concolor (Dicks.) B. Stein.: Weber, 1963  
Candelaria fibrosa (Fr.) Müll. Arg.: Weber, 1963  
Candelariella aurella (Hoffm.) Zahlbr.: MIN HERB  
Candelariella medians (Nyl.) Sm.: Weber, 1963  
Candelariella vitellina (Ehrh.) Müll. Arg.: Weber, 1963  
Candelariella xanthostigma (Ach.) Lett.: Weber, 1963  
Catillaria lenticularis (Ach.) Th. Fr.: Weber, 1963  
Cetraria coralligera (W. Web.) Hale: Weber, 1963, Hale 1976  
Cetraria fendleri (Nyl.) Tuck.: Weber, 1963

Cetraria pinastri (Scop.) S. Gray: Weber, 1963  
Cetraria weberi Essl.: MIN HERB  
Cladonia cariosa (Ach.) Spreng.: Weber, 1963  
Cladonia chlorophaea (Flörke ex Somm.) Spreng.: Darrow, 1950, Weber, 1963  
Cladonia coniocraea (Flörke) Spreng.: Weber, 1963  
Cladonia pyxidata (L.) Hoffm.: Weber, 1963  
Collema conglomeratum Hoffm.: Darrow, 1950, Weber, 1963  
Collema furfuraceum (Arn.) Du Røitz: Weber, 1963  
Collema polycarpon Hoffm.: Weber, 1963  
Collema tenax (Sw.) Ach.: Weber, 1963  
Collema tuniforme (Ach.) Ach.: Weber, 1963  
[Collema verruciforme (Ach.) Nyl.: Darrow, 1950, Weber, 1963 misident.]  
Coccocarpia cronia (Tuck.) Vain.: Weber, 1963  
Cyphelium tigillare (Ach.) Ach.: Weber, 1963  
Dermatocarpon compactum (Mass.) Lett.: Weber, 1963  
Dermatocarpon lachneum (Ach.) A. L. Sm.: Weber, 1963  
Dermatocarpon miniatum (L.) Mann: Weber, 1963  
Dermatocarpon moulinii (Mont.) Zahlbr.: Weber, 1963  
Dermatocarpon tuckermanii (Rav.) Zahlbr.: Weber, 1963  
Dimelaena oriena (Ach.) Norm.: Weber, 1963  
Diploschistes actinostomus (Pers.) Zahlbr.: Weber, 1963  
Diploschistes scruposus (Schreb.) Norm.: Weber, 1963, MIN HERB  
Endocarpon pusillum Hedw.: Weber, 1963  
Haematomma subpuniceum (Müll. Arg.) B. de Lesd.: Weber, 1963  
Heppia lutosa (Ach.) Nyl.: Weber, 1963  
Heterodermia diademata (Tayl.) Awas.: Weber, 1963  
Heterodermia neoleucomelaena (Kurok.) ined.: Weber, 1963  
Heterodermia obscurata (Nyl.) Trev.: Weber, 1963  
Heterodermia speciosa (Degel.) W. Culb.: Weber, 1963  
Heterodermia squamulosa (Degel.) W. Culb.: Weber, 1963  
Heterodermia tremulans (Müll. Arg.) W. Culb.: Weber, 1963  
Koerberia biformis Mass.: Weber, 1963  
Lasallia papulosa (Ach.) Llano: Weber, 1963, MIN HERB  
Lasallia pensylvanica (Hoffm.) Llano: Weber, 1963  
Lecania erysibe (Ach.) Mudd: Weber, 1963, MIN HERB  
Lecanora atra (Huds.) Ach.: Weber, 1963  
Lecanora carpinea (L.) Vain.: Weber, 1963  
Lecanora cenisia Ach.: Weber, 1963  
Lecanora chlarona (Ach.) Nyl.: Weber, 1963  
Lecanora chlarotera Nyl.: Weber, 1963  
Lecanora chloropolia (Erichs.) Almb.: Weber, 1963  
Lecanora cinerea (L.) Somm.: Weber, 1963  
Lecanora dispersa (Pers.) Somm.: Weber, 1963  
Lecanora frustulosa (Dicks.) Ach.: Weber, 1963  
Lecanora novomexicana Magn. non (B. de Lesd.) B. de Lesd.: Weber, 1963  
Lecanora muralis (Schreb.) Rabenh.: Weber, 1963  
Lecanora mutabilis Somm.: Weber, 1963  
Lecanora pallida (Schreb.) Rabenh.: Darrow, 1950, Weber, 1963  
Lecanora pulicaris (Pers.) Ach.: MIN HERB

Lecanora rupicola (L.) Zahlbr.: Weber, 1963  
Lecanora varia (Ehrh.) Ach.: Weber, 1963  
Lecidea botryosa (Fr.) Th. Fr.: Weber, 1963  
Lecidea decipiens (Hedw.) Ach.: Weber, 1963  
Lecidea friesii Ach.: Weber, 1963  
Lecidea fuscoatra (L.) Ach.: Weber, 1963  
Lecidea granulosa (Ehrh.) Ach.: Weber, 1963, MIN HERB  
Lecidea latypiza Nyl.: Weber, 1963  
Lecidea lurida (Dill.) Ach.: Weber, 1963  
Lecidea nipponica Zahlbr.: Weber, 1963  
Lecidea rubiformis (Wahlenb. ex Ach.) Wahlenb.: Weber, 1963

- I
- Lecidea scalaris (Ach.) Ach.: Weber, 1963, MIN HERB  
Lecidea subaglaea B. de Lesd.: Weber, 1963  
Lecidea tessellata (Ach.) Flörke: Weber, 1963  
Lecidea turgidula Fr.: Weber, 1963  
Lecidea vernalis (L.) Ach.: Weber, 1963  
Lecidella elaeochroma (Ach.) Haszl.: Weber, 1963  
Lecidella euphorea (Flörke) Hert.: Weber, 1963  
Lecidella stigmathea (Ach.) Hert. & Leuck.: Weber, 1963  
Lecidella viridans (Flot.) Körb.: Weber, 1963  
Lepraria membranacea (Dicks.) Vain.: Weber, 1963  
Leprocaulon albicans (Th. Fr.) Nyl.: Weber, 1963  
Leptogium chloromelum (Sw. ex Ach.) Nyl.: Weber, 1963  
Leptogium denticulatum Nyl.: Weber, 1963  
Leptogium furfuraceum (Harm.) Sierk: Weber, 1963  
Leptogium lichenoides (L.) Zahlbr.: Weber, 1963  
Leptogium sp.: Weber, 1963  
Lichinella stipatula Nyl.: Weber, 1963  
Micarea viridescens (Schröd.) Brodo: Darrow, 1950, Weber, 1963  
Microthelia aterrima (Anzi) Zahlbr.: Weber, 1963  
Microthelia micula Körb.: Weber, 1963  
Mycoblastus tornoensis (Nyl.) R. Anders.: Weber, 1963  
Nephroma parile (Ach.) Ach.: Weber, 1963  
Normandina pulchella (Borr.) Nyl.: Weber, 1963  
Ochrolechia pallescens (L.) Mass.: Darrow, 1950, Weber, 1963  
Pannaria microphylla (Sw.) Mass.: Weber, 1963  
Pannaria pityrea (DC.) Degel.: Weber, 1963, MIN HERB  
Parmelia atticoides Essl.: Esslinger, 1977  
Parmelia bolliana Müll. Arg.: Weber, 1963  
Parmelia borreri (Sm.) Turn.: Darrow, 1950, Weber, 1963  
Parmelia brunella Essl.: Esslinger, 1977  
Parmelia caperata (L.) Ach.: Darrow, 1950, Weber, 1963  
Parmelia cetrata Ach.: Darrow, 1950, Weber, 1963  
Parmelia chiricahuensis R. Anderson & W. Web.: Weber, 1963, Esslinger, 1977  
Parmelia conspersa (Ach.) Ach.: Weber, 1963  
Parmelia eurysaca Hue: Weber, 1963, Hale, 1965  
Parmelia flaventior Stirt.: Weber, 1963, MIN HERB  
Parmelia hababiana Gyeln.: Weber, 1963, Hale, 1965  
Parmelia leucochlora Tuck.: Darrow, 1950, Weber, 1963  
Parmelia occidentalis Essl.: Esslinger, 1977  
Parmelia olivacea (L.) Ach.: Darrow, 1950, Weber, 1963

Parmelia praesignis Nyl.: Weber, 1963  
Parmelia pulla (Schreb.) Ach.: Weber, 1963, MIN HERB  
Parmelia pulvinata Fee: Weber, 1963  
Parmelia reticulata Tayl.: Weber, 1963, MIN HERB  
Parmelia substygia Räs.: Weber, 1963  
Parmelia subtinctoria Zahlbr.: Weber, 1963, Hale, 1965  
Parmelia sulcata Tayl.: Darrow, 1950, Weber, 1963  
Parmelia soledica Nyl.: Weber, 1963  
Parmelia tasmanica Hook. f. & Tayl.: MIN HERB  
Parmeliopsis aleurites (Ach.) Lett.: Weber, 1963, MIN  
 HERB  
Parmeliopsis ambigua (Wulf.) Nyl.: Weber, 1963  
Parmeliopsis placorodia (Ach.) Nyl.: Weber, 1963  
Peltigera canina (L.) Willd.: Weber, 1963, MIN HERB  
Peltigera polydactyla (Neck.) Hoffm.: Weber, 1963  
Peltula euploca (Ach.) Oz. & Claud.: Weber, 1963  
 [ Peltula tortuosa (Nees) Wetm.: Weber, 1963 misident. ]  
Pertusaria multipuncta (Turn.) Nyl.: Weber, 1963  
Pertusaria wulfenoides B. de Lesd.: Weber, 1963  
Phaeophyscia ciliata (Hoffm.) Essl.: Weber, 1963  
Phaeophyscia endococcinea (Körb.) Essl.: Weber, 1963  
Phaeophyscia orbicularis (Neck.) Moberg.: Darrow, 1950,  
 Weber, 1963  
Physcia aipolia (Ehrh.) Hampe: Weber, 1963  
Physcia albinea (Ach.) Nyl.: Weber, 1963  
Physcia callosa Nyl.: Weber, 1963  
Physcia mexicana B. de Lesd.: MIN HERB  
Physcia phaea (Tuck.) Thoms.: Weber, 1963  
Physcia stellaris (L.) Nyl.: Darrow, 1950, Weber, 1963  
Physcia teretiuscula (Ach.) Lynge: Weber, 1963  
Placynthium nigrum (Huds.) S. Gray: Weber, 1963  
Protoblastenia rupestris (Scop.) J. Stein.: Weber, 1963  
Pseudevernia intensa (Nyl.) Hale & W. Culb.: Weber, 1963  
Ramalina pollinaria (Westr.) Ach.: Weber, 1963  
Ramalina sinensis Jatta: Weber, 1963  
Rhizocarpon disporum (Naeg. ex Hepp) Müll. Arg.: Weber,  
 1963  
Rhizocarpon polycarpum (Hepp) Th. Fr.: Weber, 1963  
Rhizocarpon riparium Räs.: Weber, 1963  
Rhizoplaca chrysoleuca (Smith) Zopf: Weber, 1963  
Rinodina confragosa (Ach.) Koerb.: Weber, 1963  
Rinodina exigua (Ach.) S. Gray: Darrow, 1950  
Rinodina laevigata (Ach.) Malme: Weber, 1963  
Rinodina milvina (Wahlenb. ex Ach.) Th. Fr.: Weber, 1963  
 [ Rinodina sophodes (Ach.) Mass.: Darrow, 1950, Weber, 1963  
 misident. ]  
Sarcogyne regularis Körb.: Weber, 1963  
Staurothele catalepta (Ach.) Blomb. & Forss.: Weber, 1963  
Staurothele fissa (Tayl.) Zw.: Weber, 1963  
Stereocaulon albicans Th. Fr.: MIN HERB  
Sticta weigelii (Insert. ex Ach.) Vain.: Weber, 1963  
Thyrea pulvinata (Schaer.) Mass.: Weber, 1963  
Toninia candida (Web.) Th. Fr.: Weber, 1963  
Toninia cinereovirens (Schaer.) Mass.: Weber, 1963  
Toninia tristis (Th. Fr.) Th. Fr.: Weber, 1963



- Umbilicaria cinereorufescens (Schaer.) Frey: MIN HERB  
Umbilicaria torrefacta (Lightf.) Schrad.: Weber, 1963,  
 MIN HERB  
Umbilicaria vellea (L.) Ach.: Weber, 1963  
Usnea arizonica Mot.: Weber, 1963  
Usnea cavernosa Tuck.: Weber, 1963  
Usnea fulvovirens (Räs.) Räs.: Darrow, 1950, Weber, 1963  
 S-I Usnea hirta (L.) Wigg.: Weber, 1963  
 S-I Usnea subfloridana Stirt.: Weber, 1963  
Usnea sp.: Weber, 1963  
Verrucaria fuscella (Turn.) Ach.: Weber, 1963  
Verrucaria muralis Ach.: Weber, 1963  
Xanthoria elegans (Link) Th. Fr.: Weber, 1963  
 S-I Xanthoria fallax (Hepp) Arn.: Darrow, 1950, Weber, 1963  
 I Xanthoria polycarpa (Ehrh.) Oliv.: Weber, 1963

# CHIR REFERNCES

- Darrow, R. A. 1950. The arboreal lichen flora of southeastern Arizona. Amer. Midl. Nat. 43: 484-502.
- Esslinger, T. L. 1977. A chemosystematic revision of the brown Parmeliae. Jour. Hattori Bot. Lab. 42:1-211.
- Hale, M. E. 1965. A monograph of Parmelia subgenus Amphigymnia. Contrib. U. S. Nat. Herb. 36 (5):193-358.
- Hale, M. E. 1967. New taxa in Cetraria, Parmelia, and Parmeliopsis. Bryologist 70:414-422.
- Imshaug, H. A. 1951. The lichen-forming species of the genus Buellia occurring in the United States and Canada. PhD. thesis, Univ. of Michigan.
- Weber, W. A. 1963. Lichens of the Chiricahua Mountains, Arizona. Univ. of Colo. Studies. Biol. Ser. 10: 1-27.

CRLA - CRATER LAKE NATIONAL PARK

Total number of species = 41 : Poorly known

4 species with type localities in the Park

- Acarospora fuscata (Schrad.) Arn.: Sipe, 1943  
Acarospora oxytona (Ach.) Mass.: Sipe, 1943  
Acarospora rufescens (Ach.) Bausch: Sipe, 1943  
Aspicilia cinerea (L.) K rb.: Sipe, 1943  
Aspicilia cinereorufescens (Ach.) Mass.: Sipe, 1943  
\* Aspicilia tenuis (Magn.) ined.: Magnusson, 1939  
Bryoria fremontii (Tuck.) Brodo & Hawksw.: Sipe, 1943  
S [ Bryoria jubata (L.) Ach.: Magnusson, 1939, Sipe, 1943, ident. uncertain ]  
Bryoria lanestris (Ach.) Brodo & Hawksw.: Brodo & Hawksworth, 1977  
Bryoria oregana (Tuck.) Brodo & Hawksw.: Sipe, 1943  
S-I Cladonia fimbriata (L.) Fr.: Sipe, 1943  
Dermatocarpon miniatum (L.) Mann: Sipe, 1943 *Dermatocarpon moulinianum* M. N.  
[ Haematomma ventosum (L.) Mass.: Sipe, 1943 misident. ] *Haematomma cinereatum* M. N.  
Huillia macrocarpa (DC.) Hertel: Sipe, 1943  
\* Lecanora applegatei Herre: Herre, 1944 MIN  
I Lecanora coilocarpa (Ach.) Nyl.: Sipe, 1943  
Lecanora polytropa (Ehrh.) Rabenh.: Sipe, 1943  
Lecanora pringlei (Tuck.) Lamb: Sipe, 1943  
Lecanora rupicola (L.) Zahlbr.: Sipe, 1943  
Lecanora sanguinea (Kremp.) Mig.: Magnusson, 1939  
Lecidea auriculata Th. Fr.: Sipe, 1943  
Lecidea cascadiensis Magn.: Sipe, 1943, Magnusson, 1939  
Lecidea contigua (Hoffm.) Fr.: Sipe, 1943  
Lecidea elabens Fr.: Sipe, 1943  
Lecidea fuscoatra (L.) Ach.: Sipe, 1943  
Lecidea granulosa (Ehrh.) Ach.: Sipe, 1943  
\* [ Lecidea lacus-crateris Magn.: Magnusson, 1939, Sipe, 1943 = Lecidella stigmatea ]  
Lecidea leucothallina Arn.: Anderson, 1965  
Lecidea pumicola Magn.: Sipe, 1943  
Lecidea russula Ach.: Sipe, 1943  
Lecidella stigmatea (Ach.) Hertel & Leuck.: Magnusson, 1939, Sipe, 1943, Hertel, 1971  
Letharia vulpina (L.) Hue: Sipe, 1943  
Omphalodiscus decussata (Vill.) Schol.: Sipe, 1943  
Omphalodiscus krascheninnikovii (Sav.) Schol.: Llano, 1950, MIN HERB  
I-T Parmelia sulcata Tayl.: Sipe, 1943  
Pseudephebe pubescens (L.) Choisy: Sipe, 1943, Magnusson, 1939, Magnusson, 1946  
S Ramalina farinacea (L.) Ach.: Sipe, 1943  
Rhizocarpon geminatum K rb.: Magnusson, 1939  
Rhizocarpon geographicum (L.) DC.: Magnusson, 1939, Sipe, 1943  
Rhizoplaca melanophthalma (Ram.) Leuck. & Poelt.:

- Magnusson, 1939  
Solorina crocea (L.) Ach.: Sipe, 1943  
Umbilicaria hyperborea (Ach.) Hoffm.: Sipe, 1943 MIN  
Umbilicaria phaea Tuck.: Llano, 1950  
Umbilicaria torrefacta (Lightf.) Schrad.: Sipe, 1943,  
 Llano, 1950, MIN HERB  
 \* Umbilicaria torrefacta var. pachydermata Llano: Llano,  
 1950  
Umbilicaria vellea (L.) Ach.: Sipe, 1943  
Xanthoria elegans (Link) Th. Fr.: Magnusson, 1939, Sipe,  
 1943 MIN  
Xylographa abietina (Pers.) Zahlbr.: Sipe, 1943

#### CRLA REFERENCES

- Anderson, R. A. 1965. Additions to the lichen flora of North America-I. Bryologist 68:54-63.  
 Brodo, I. M. & D. L. Hawksworth. 1977. Alecatoria and allied genera in North America. Opera Botanica 42: 1-164.  
 Herre, A. W. 1944. A new Lecanora from Crater Lake National Park. Bryologist 47:91-92.  
 Herre, A. W. 1946. The Parmelias of California. Contrib. Dudley Herb. 3:313-350.  
 Hertel, H. 1971. Über Holarktische Krustflechten aus den Venezuelianischen Anden. Willdenowia 6(1971):225-272.  
 Llano, G. A. 1950. A monograph of the lichen family Umbilicariaceae in the western hemisphere. Off. Naval Res., Washington, D. C. (Navexos P-831):1-281.  
 Magnusson, A. 1939. Western American lichens, mainly from Oregon. Meddl. Göteborgs Bot. Träddg. 13:237-253.  
 Sipe, F. P. 1943. Lichens of Crater Lake National Park. Bryologist 46:135-138.

CRMO - CRATERS OF THE MOON NATIONAL MONUMENT

No lichens reported : Unknown

EVER - EVERGLADES NATIONAL PARK

Total number of species = 35 : Poorly known

- Anisomeridium leucochlorum (Müll. Arg.) Harris: MIN HERB  
Anthracothecium ochraceoflavum (Nyl.) Müll. Arg.: MIN  
 HERB  
Arthopyrenia cinchonae (Ach.) Müll. Arg.: MIN HERB  
Cladonia chlorophaea (Flörke ex Somm.) Spreng.: Moore,  
 1968  
Cladonia ravenelii Tuck.: Moore, 1968  
Cladonia sandstedei Abb.: Moore, 1968  
Coccocarpia cronia (Tuck.) Vain.: Moore, 1968, MIN HERB  
Coccocarpia parmelioides (Hook.) Tuck. ex Curt.: Moore,  
 1968  
Collema nigrescens (Huds.) DC: Moore, 1968  
Glyphis favulosa Ach.: MIN HERB  
Helminthocarpon leprevostii Fee: MIN HERB  
Lecanora caesiorubella Ach.: MIN HERB  
Leptogium austroamericanum (Malme) Dodge: Moore, 1968  
Leptogium cyanescens (Ach.) Körb.: Moore, 1968  
Leptogium floridanum Sierk: Moore, 1968  
Leptogium fusisporum (Tuck.) Dodge: Moore, 1968  
Leptogium marginellum (Sw.) S. Gray: Moore, 1968  
Parathelium microcarpum Ridd.: MIN HERB  
Parmelia amazonica Nyl.: MIN HERB  
Parmelia caroliniana Nyl.: Moore, 1968  
Parmelia cryptochlorophaea Hale: Moore, 1968  
Parmelia endosulphurea (Hillm.) Hale: Hale, 1965, Moore,  
 1968  
Parmelia hypotropa Nyl.: Moore, 1968  
Parmelia perforata (Jacq.) Ach.: MIN HERB  
Parmelia rampoddensis Nyl.: Moore, 1968  
Parmelia sulphurata Nees & Flot.: Moore, 1968  
Parmelia tinctorum Del. ex Nyl.: MIN HERB  
Physcia alba (Fee) Müll. Arg.: Moore, 1968  
Pyrenula concatervans (Nyl.) Harris: MIN HERB  
Pyrenula xyloides (Eschw.) Müll. Arg.: MIN HERB  
Pyxine cocoas (Sw.) Nyl.: MIN HERB  
Ramalina dendriscoides Nyl.: Moore, 1968  
Ramalina paludosa B. Moore: Moore, 1967, Moore, 1968  
Trypethelium annulare (Fee) Mont.: MIN HERB  
Trypethelium eluteriae Spreng.: MIN HERB

#### EVER REFERENCES

- Hale, M. E. 1965. A monograph of *Parmelia* subgenus *Amphigymnia*. Contrib. U. S. Nat. Herb. 36 (5):193-358.
- Moore, B. J. 1967. *Ramalina paludosa*, a new species from Florida. Bryologist 70:315-317.
- Moore, B. J. 1968. The macrolichen flora of Florida. Bryologist 71:161-266.

GLAC - GLACIER NATIONAL PARK

Total number of species = 89 : Poorly known

- Alectoria imshaugii Brodo & Hawksw.: Brodo & Hawksworth, 1977
- Alectoria nigricans (Ach.) Nyl.: Imshaug 1957
- Alectoria sarmentosa (Ach.) Ach.: Brodo & Hawksworth, 1977, MIN HERB
- Bryoria capillaris (Ach.) Brodo & Hawksw.: Brodo & Hawksworth, 1977
- Bryoria glabra (Mot.) Brodo & Hawksw.: Brodo & Hawksworth, 1977
- S Bryoria trichodes (Michx.) Brodo & Hawksw.: MIN HERB
- Bryoria vrangiana (Gyeln.) Brodo & Hawksw.: Brodo & Hawksworth, 1977
- I Buellia penichra (Tuck.) Hasse: Imshaug, 1951
- Candelariella vitellina (Ehrh.) Müll. Arg.: MIN HERB
- Cetraria commixta (Nyl.) Th. Fr.: Imshaug, 1957
- Cetraria ericetorum Opiz: Imshaug, 1957
- Cetraria hepatizon (Ach.) Vain.: Thomson, 1954, Imshaug, 1957
- Cetraria islandica (L.) Ach. subsp. islandica: Imshaug, 1957
- Cetraria nivalis (L.) Ach.: Imshaug, 1957
- Cetraria tilesii Ach.: Imshaug, 1957
- Cladonia bacillaris (Ach.) Nyl.: MIN HERB
- Cladonia cariosa (Ach.) Spreng.: Imshaug, 1957, MIN HERB
- Cladonia chlorophaea (Flörke ex Somm.) Spreng.: Imshaug, 1957
- Cladonia coccifera (L.) Willd.: Imshaug, 1957
- Cladonia ecmocyna (Ach.) Nyl.: Imshaug, 1957, MIN HERB
- Cladonia multiformis Merr.: MIN HERB
- Cladonia pyxidata (L.) Hoffm.: Imshaug, 1957
- Cornicularia aculeata (Schreb.) Ach.: Imshaug, 1957
- Cornicularia normoerica (Gunn.) Du Rietz: Imshaug, 1957
- Cyphelium karelicum (Vain.) Räs.: Tibell, 1975
- Cyphelium pinicola Tibell: MIN HERB
- Dactylina ramulosa (Hook.) Tuck.: Imshaug, 1957
- Dermatocarpon intestiniforme (Körb.) Hasse: Imshaug, 1957, MIN HERB
- Dermatocarpon miniatum (L.) Mann: MIN HERB
- Hypogymnia intestiniformis (Vill.) Räs.: Imshaug, 1957
- I Hypogymnia physodes (L.) W. Wats.: Imshaug, 1957
- I Lecidea scalaris (Ach.) Ach.: MIN HERB
- Leprocaulon subalbicans (Lamb) Lamb & Ward: Imshaug, 1957, Lamb & Ward, 1974
- Leptogium californicum Tuck.: Sierk, 1964
- Letharia vulpina (L.) Hue: MIN HERB
- S Lobaria pulmonaria (L.) Hoffm.: MIN HERB
- Massalongia carnosa (Dicks.) Körb.: Henssen, 1963a
- Nephroma bellum (Spreng.) Tuck.: Wetmore, 1960
- Nephroma helveticum Ach.: Wetmore, 1960
- Nephroma parile (Ach.) Ach.: Wetmore, 1960
- Nephroma resupinatum (L.) Ach.: Wetmore, 1960



- Ochrolechia pallescens (L.) Mass.: MIN HERB  
Omphalodiscus krascheninnikovii (Sav.) Schol.: Llano, 1950, Imshaug, 1957,  
Omphalodiscus virginis (Schaer.) Schol.: Imshaug, 1957, Llano, 1950  
Parmelia disjuncta Erichs.: Imshaug, 1957  
Parmelia infumata Nyl.: Esslinger, 1977  
Parmelia multispora Schneid.: Ahti, 1966  
Parmelia panniformis (Nyl.) Vain.: Imshaug, 1957  
I Parmelia pulla (Schreb.) Ach.: Imshaug, 1957  
Parmelia saxatilis (L.) Ach.: Imshaug, 1957  
Parmelia soledica Nyl.: Imshaug, 1957  
Parmelia stygia (L.) Ach.: Imshaug, 1957  
Parmelia subolivacea Nyl. in. Hasse: Ahti, 1966  
I Parmeliopsis ambigua (Wulf.) Nyl.: MIN HERB  
Parmeliopsis hyperopta (Ach.) Arn.: MIN HERB  
Peltigera apthosa (L.) Willd.: Imshaug, 1957, MIN HERB  
Peltigera canina (L.) Willd.: Thomson, 1950  
Peltigera canina var. rufescens (Weis) Mudd: Thomson, 1950  
Peltigera leucophlebia (Nyl.) Gyeln.: MIN HERB  
Peltigera membranacea (Ach.) Nyl.: Thomson, 1950  
Peltigera polydactyla (Neck.) Hoffm.: Thomson, 1950, MIN HERB  
Phaeophyscia endococcina (Körb.) Essl.: Imshaug, 1957, Thomson, 1963  
Phaeophyscia sciastra (Ach.) Moberg: Imshaug 1957, Thomson, 1963  
Physcia aipolia (Ehrh.) Hampe: Thomson, 1963  
Physcia caesia (Hoffm.) Hampe: Thomson, 1963  
T Physcia dubia (Hoffm.) Lett.: Thomson, 1954, Thomson, 1963  
Physcia semipinnata (Gmelin) Moberg: Imshaug, 1957, Thomson, 1963  
I Physconia detera (Nyl.) Poelt: Thomson, 1963  
Physconia muscigena (Ach.) Poelt: Imshaug, 1957, Thomson, 1963  
I Platismatia glauca (L.) W. Culb. & C. Culb.: Fink, 1919, Culberson & Culberson, 1968  
Pseudephebe minuscula (Nyl. ex Arn.) Brodo & Hawksw.: Imshaug, 1957  
Pseudephebe pubescens (L.) Choisy: Herre, 1946, Imshaug, 1957  
Ramalina thrausta (Ach.) Nyl.: Bowler, 1977  
Rhizocarpon geographicum (L.) DC.: MIN HERB  
Rhizocarpon grande (Flörke ex Flot.) Arn.: MIN HERB  
Rhizocarpon lecanorinum (Körb.) And.: MIN HERB  
Solorina bispora Nyl.: Imshaug, 1957  
Solorina crocea (L.) Ach.: Imshaug, 1957  
Stereocaulon alpinum Laur.: Imshaug, 1957  
Stereocaulon paschale (L.) Hoffm.: MIN HERB  
Thamnia vermicularis (Sw.) Ach. ex Schaer.: Imshaug, 1957, MIN HERB  
Umbilicaria hirsuta (Sw. ex Westr.) Ach.: Llano, 1950, MIN HERB

Umbilicaria hyperborea (Ach.) Hoffm.: Llano, 1950,  
 Imshaug, 1957  
Umbilicaria phaea Tuck.: Llano, 1950  
Umbilicaria polyphylla (L.) Baumg.: Llano, 1950  
Umbilicaria torrefacta (Lightf.) Schrad.: Imshaug, 1957  
Umbilicaria vellea (L.) Ach.: Llano, 1950  
Usnea laricina Vain. ex Räs.: MIN HERB  
Xanthoria elegans (Link) Th. Fr.: MIN HERB

#### GLAC REFERENCES

- Ahti, T. 1966. *Parmelia olivacea* and the allied non-isidiate and non-sorediate corticolous lichens in the Northern Hemisphere. *Acta Bot. Fenn.* 70:1-68.
- Bowler, P. A. 1977. *Ramalina thrausta* in North America. *Bryologist* 80:529-532.
- Brodo, I. M. & D. L. Hawksworth. 1977. *Alectoria* and allied genera in North America. *Opera Botanica* 42.: 1-164.
- Culberson, W. L. & C. F. Culberson. 1968. The lichen genera *Cetrelia* and *Platismatia* (Parmeliaceae). *Contrib. U. S. Nat. Herbarium* 34 (7):449-558.
- Esslinger, T. L. 1977. A chemosystematic revision of the brown *Parmeliae*. *Jour. Hattori Bot. Lab.* 42:1-211.
- Fink, B. 1919. Additions to the lichen distribution in North America. *Mycologia* 11 (6): 296-307.
- Henssen, A. 1963a. The North American species of *Massalongia* and generic relationships. *Can. Jour. Bot.* 41:1331-1346.
- Herre, A. W. 1946. The *Parmelias* of California. *Contrib. Dudley Herb.* 3:313-350.
- Imshaug, H. A. 1951. The lichen-forming species of the genus *Buellia* occurring in the United States and Canada. PhD. thesis, Univ. of Michigan.
- Imshaug, H. A. 1957. Alpine lichens of western United States and adjacent Canada. I, The macrolichens. *Bryologist* 60:177-272.
- Lamb, I. M. & A. Ward. 1974. A preliminary conspectus of the species attributed to the imperfect lichen genus *Leprocaulon* Nyl. *Jour. Hattori Bot. Lab.* 38:499-553.
- Llano, G. A. 1950. A monograph of the lichen family *Umbilicariaceae* in the western hemisphere. Off. Naval Res., Washington, D. C. (Navexos P-831):1-281.
- Sierk, H. A. 1964. The genus *Leptogium* in North America north of Mexico. *Bryologist* 67:245-317.
- Thomson, J. W. 1950. The species of *Peltigera* of North America north of Mexico. *Amer. Midl. Nat.* 44:1-68.
- Thomson, 1954. Lichens of the 1951 foray to the north shore of Lake Superior. *Bryologist* 57:278-291.
- Thomson, J. W. 1963. The lichen genus *Physcia* in North America. *Nova Hedwigia, Beih.* 7, viii + 172.
- Tibell, L. 1975. The *Caliciales* of boreal North America. *Symb. Bot. Ups.* 21(2), 136pp.
- Wetmore, C. M. 1960. The lichen genus *Nephroma* in North and Middle America. *Publ. Museum, Michigan State Univ., Biol. Ser.* 1:369-452.

GRCA - GRAND CANYON NATIONAL PARK

Total number of species = 87 : Moderately known

3 species with type localities in the park

- Acarospora epilutescens Zahlbr.: McDougall, 1947  
Acarospora oligospora (Nyl.) Arn.: MIN HERB  
Acarospora strigata (Nyl.) Jatta: MIN HERB  
Acarospora subpeltata Hasse ined.: MIN HERB  
Acarospora sp.: McDougall, 1947  
Aspicilia alphoplaca (Wahlenb. ex Ach.) Ach.: MIN HERB  
Aspicilia calcarea (L.) K8rb.: MIN HERB  
Aspicilia cinerea (L.) K8rb.: McDougall, 1947  
Caloplaca approximata (Lyng.) Magn.: MIN HERB  
\* Caloplaca arizonica Magn.: Rudolph, 1955, MIN HERB  
\* Caloplaca durietzii Magn.: Magnusson, 1953, Rudolph, 1955  
Caloplaca epithallina Lyng.: Nash & Weber, 1974  
Caloplaca microphyllina (Tuck.) Hasse: MIN HERB  
\* Caloplaca pinicola Magn.: Magnusson, 1953, Rudolph, 1955  
Caloplaca saxicola (Hoffm.) Nordin: MIN HERB  
Caloplaca trachyphylla (Tuck.) Zahlbr.: MIN HERB  
Caloplaca variabilis (Pers.) M8ll. Arg.: Rudolph, 1955  
S-I Candelaria concolor (Dicks.) B. Stein: MIN HERB  
Candelariella rosulans (M8ll. Arg.) Zahlbr.: MIN HERB  
I Candelariella vitellina (Ehrh.) M8ll. Arg.: McDougall, 1947, MIN HERB  
Cetraria fendleri (Nyl.) Tuck.: MIN HERB  
Cladonia capitata (Michx.) Spreng.: McDougall, 1947  
Cladonia chlorophaea (Fl8rke ex Somm.) Spreng.: McDougall, 1947  
I Cladonia coniocraea (Fl8rke) Spreng.: McDougall, 1947  
Cladonia pyxidata (L.) Hoffm.: McDougall, 1947  
Collema coccophorum Tuck.: MIN HERB  
Collema polycarpon Hoffm.: MIN HERB  
Collema tenax (Sw.) Ach.: MIN HERB  
Collema tuniforme (Ach.) Ach.: MIN HERB  
Dermatocarpon lachneum (Ach.) A. L. Sm.: MIN HERB  
Dermatocarpon miniatum (L.) Mann: McDougall, 1947, MIN HERB  
Dermatocarpon rufescens (Ach.) Th. Fr.: MIN HERB  
Dimelaena oreina (Ach.) Norm.: MIN HERB  
Diploschistes scruposus (Schreb.) Norm.: MIN HERB  
Heppia lutosa (Ach.) Nyl.: Wetmore, 1970, MIN HERB  
Huilia macrocarpa (DC.) Hertel: McDougall, 1947  
Lecanora cenisia Ach.: MIN HERB  
Lecanora frustulosa (Dicks.) Ach.: MIN HERB  
T Lecanora muralis (Schreb.) Rabenh.: MIN HERB  
Lecanora polytropa (Ehrh.) Rabenh.: MIN HERB  
Lecidea atrobrunnea (Ram.) Schaer.: McDougall, 1947  
Lecidea crenata (Tayl.) Stizenb.: McDougall, 1947, MIN HERB  
Lecidea decipiens (Hedw.) Ach.: McDougall, 1947, MIN HERB  
Lecidea friesii Ach.: MIN HERB

- Lecidea granulosa (Ehrh.) Ach.: MIN HERB  
Lecidea nipponica Zahlbr.: MIN HERB  
 I [ Lecidea parasema Ach.: McDougall, 1947 ident. uncertain ]  
Lecidea rufonigra (Tuck.) Nyl.: MIN HERB  
Lecidea tuckermanii R. Anders.: MIN HERB  
Leptogium sinuatum (Huds.) Mass.: MIN HERB  
Lichinella stipatula Nyl.: Henssen, 1968  
Parmelia chlorochroa Tuck.: McDougall, 1947, MIN HERB  
Parmelia lineola Berry: MIN HERB  
 I Parmelia olivacea (L.) Ach.: McDougall, 1947  
Parmelia subolivacea Nyl. in Hasse: Ahti, 1966, MIN HERB  
Parmelia substygia Räs.: MIN HERB  
Peltigera canina (L.) Willd.: McDougall, 1947, MIN HERB  
Peltigera horizontalis (Huds.) Baumg.: MIN HERB  
Peltula obscurans (Nyl.) Gyeln.: MIN HERB  
Peltula obscurans var. deserticola (Zahlbr.) Wetm.:  
 Wetmore, 1970  
Phaeophyscia ciliata (Hoffm.) Essl.: MIN HERB  
Phaeophyscia endococcinea (Körb.) Essl.: MIN HERB  
 I Phaeophyscia orbicularis (Neck.) Moberg: MIN HERB  
Phaeophyscia sciastra (Ach.) Moberg: MIN HERB  
Physcia adscendens (Th. Fr.) Oliv.: MIN HERB  
Physcia ceasia (Hoffm.) Hampe: Thomson, 1963  
Physcia callosa Nyl.: MIN HERB  
 I Physcia stellaris (L.) Nyl.: Thomson, 1963, MIN HERB  
 I Physconia deterosa (Nyl.) Poelt: MIN HERB  
Physconia muscigena (Ach.) Poelt: MIN HERB  
 S Ramalina calicaris (L.) Fr.: McDougall, 1947  
 S-I Ramalina fastigiata (Pers.) Ach.: McDougall, 1947  
Rhizocarpon disporum (Naeg. ex Hepp) Müll. Arg.: MIN HERB  
Rhizocarpon geographicum (L.) DC.: McDougall, 1947  
Rhizoplaca melanophthalma (Ram.) Leuck. & Poelt: MIN HERB  
Sarcogyne regularis Körb.: MIN HERB  
Staurothele clopima (Walenb. ex Ach.) Th. Fr.: McDougall,  
 1947  
Staurothele monicae (Zahlbr.) ined.: MIN HERB  
Staurothele sessilis Magn.: MIN HERB  
Toninia caeruleonigricans (Lightf.) Th. Fr.: MIN HERB  
Toninia candida (Web.) Th. Fr.: MIN HERB  
Umbilicaria hirsuta (Sw. ex Westr.) Ach.: McDougall, 1947  
Usnea cavernosa Tuck. McDougall, 1947, MIN HERB  
 S Usnea florida (L.) Wigg.: McDougall, 1947  
Usnea fulvoreagens (Räs.) Räs.: MIN HERB  
 S-I Usnea hirta (L.) Wigg.: MIN HERB  
Xanthoria elegans (Link) Th. Fr.: McDougall, 1947,  
 Rudolph, 1955, MIN HERB  
 S-I Xanthoria fallax (Hepp) Arn.: MIN HERB  
 I Xanthoria polycarpa (Ehrh.) Oliv.: McDougall, 1947, MIN  
 HERB

# GRCA REFERENCES

- Ahti, T. 1966. *Parmelia olivacea* and the allied non-isidiate and non-sorediate corticolous lichens in the Northern Hemisphere. *Acta Bot. Fenn.* 70:1-68.
- Henssen, A. 1968. Eine neue *Lichinella*-Art aus Nordmerica (Lichens). *Nova Hedwigia* 15:543-550.
- McDougall, W. E. 1947. Plants of Grand Canyon National Park. *Grand Canyon Nat. Hist. Bull.* 10:1-126.
- Magnusson, A. H. 1953. New lichens mainly *Rinodina* species from U.S.A. *Bot. Not.* 1953(2):187-196.
- Nash, T. H. & W. Weber. 1974. Additions to the lichen flora of Arizona II. *Bryologist* 77:472-474.
- Patraw, P. M. 1936. Check-list of plants of Grand Canyon National Park. *Grand Canyon Nat. Hist. Bull.* 6:1-75. NOT SEEN
- Rudolph, E. D. 1955. Revisionary studies in the lichen family *Blasteniaceae* in North America north of Mexico. Ph. D. Thesis, Washington, Univ.
- Thomson, J. W. 1963. The lichen genus *Physcia* in North America. *Nova Hedwigia, Beih.* 7, viii + 172.
- Wetmore, C. M. 1970. The lichen family *Heppiaceae* in North America. *Ann. Missouri Bot. Gard.* 57:158-209.

GRSA - GREAT SAND DUNES NATIONAL MONUMENT

Total number of species = 8 : Poorly known

- Dimelaena oreina (Ach.) Norm.: Sheard, 1974  
Lecanora caesiorubella subsp. saximontana Imsh. & Brodo:  
Imshaug & Brodo, 1966  
Pertusaria saximontana Wetm.: Anderson & Carmer, 1974  
I Phaeophyscia orbicularis (Neck.) Moberg: Thomson, 1963  
I Physcia aipolia (Ehrh.) Hampe: Thomson, 1963  
Physcia phaea (Tuck.) Thoms.: Thomson, 1963  
I Physconia detersea (Nyl.) Poelt: Thomson, 1963  
Physconia muscigena (Ach.) Poelt: Thomson, 1963

GRSA REFERENCES

- Anderson, R. & M.-B. Carmer. 1974. Additions to the lichen flora of Colorado. Bryologist 77:216-223.  
Imshaug, H. A. & I. M. Brodo. 1966. Biosystematic studies on Lecanora pallida and some related lichens in the Americas. Nova Hedwigia 12:1-59.  
Sheard, J. W. 1974. The genus Dimelaena in North America north of Mexico. Bryologist 77:128-141 (including simplified locality list provided in mimeograph form as supplement).  
Thomson, J. W. 1963. The lichen genus Physcia in North America. Nova Hedwigia, Beih. 7, viii + 172.

GRSM- GREAT SMOKY MOUNTAINS NATIONAL PARK

Total number of species = 301 : Completely known

26 species with type localities in the park

- Acarospora fuscata (Nyl.) Arn.: Degelius, 1941  
Alectoria fallacina Mot.: Brodo & Hawksworth, 1977, Dey, 1978
- I Alectoria sarmentosa Ach.: Degelius, 1941  
Anaptychia palmulata (Michx.) Vain.: Degelius, 1941, Dey, 1978
- Anzia americana Yoshim. & Sharp: Dey, 1978  
Anzia colpodes (Ach.) Stizenb.: Degelius, 1941, Yoshimura & Sharp, 1968b
- \* Arthonia biseptata Degel.: Degelius, 1941  
Arthonia caesia (Flot.) K rb.: Degelius, 1941  
Arthonia cinnabarina (DC.) Wallr.: Degelius, 1941  
Arthonia punctiformis Ach.: Degelius, 1941, MIN HERB  
Arthopyrenia fallax (Nyl.) Arn.: Degelius, 1941  
Arthopyrenia pinicola (Hepp) Mass.: Degelius, 1941  
Arthopyrenia subprostans (Nyl.) M ll. Arg.: Degelius, 1941
- Bacidia chlorantha (Tuck.) Fink.: Degelius, 1941  
Bacidia endocyanea (Tuck.) Zahlbr.: Degelius, 1941  
Bacidia fuscorubella (Hoffm.) Bausch.: Degelius, 1941  
Bacidia schweinitzii (Tuck.) Schneid.: Degelius, 1941  
Bacidia umbrina (Ach.) Bausch.: Degelius, 1941  
Baeomyces fungoides (Sm.) Ach.: Dey, 1978  
Baeomyces rufus (Huds.) Rebent.: Dey, 1978  
Bryoria bicolor (Ehrh.) Brodo & Hawksw.: Degelius, 1941, Brodo & Hawksworth, 1977, Dey, 1978
- S Bryoria furcellata (Fr.) Brodo & Hawksw.: Degelius, 1941, Dey, 1978  
Bryoria nadvornikiana (Gyeln.) Brodo & Hawksw.: Degelius, 1941, Dey, 1978  
Bryoria tenuis (Dahl.) Brodo & Hawksw.: Brodo & Hawksworth, 1977, Dey, 1978
- S Bryoria trichodes (Michx.) Brodo & Hawksw.: Brodo & Hawksworth, 1977
- S Bryoria trichodes subsp. americana (Mot.) Brodo & Hawksw.: Dey, 1978
- Buellia dialyta (Nyl.) Tuck.: Degelius, 1941, Imshaug, 1951  
Buellia disciformis (Fr.) Mudd.: Degelius, 1941  
Buellia punctiformis (Hoffm.) Mass.: Degelius, 1941  
Caloplaca sp.: Degelius, 1941  
Catillaria albocincta Degel.: Degelius, 1941  
Catillaria laureri (Hepp) Degel.: Degelius, 1941  
Cornicularia aculeata (Schreb.) Ach.: Mozingo, 1954  
Cetraria atlantica (Tuck.) DR.: Degelius, 1941  
Cetraria aurescens Tuck.: Dey, 1978
- S-I Cetraria ciliaris Ach.: Degelius, 1941, Dey, 1978  
Cetraria glauca (L.) Ach.: Degelius, 1941



- Cetraria halei W. Culb. & C. Culb.: MIN HERB  
Cetraria hepatizon (Ach.) Vain.: Dey, 1978  
Cetraria islandica (L.) Ach.: Mozingo, 1954, Dey, 1978  
Cetraria oakesiana Tuck.: Degelius, 1941, Dey, 1978, MIN  
 HERB
- I Cetraria orbata (Nyl.) Fink: Dey, 1978  
Cetrelia cetrarioides (Del. ex Duby) W. Culb. & C. Culb.:  
 Berry, 1941, Degelius, 1941, Culberson, 1962, Culb-  
 erson, 1965, Dey, 1978  
Cetrelia chicitae (W. Culb.) W. Culb. & C. Culb.: Dey,  
 1978  
Cetrelia monachorum (Zahlbr.) W. Culb. & C. Culb.:  
 Culberson & Culberson, 1978  
Cetrelia olivetorum (Nyl.) W. Culb. & C. Culb.: Dey, 1978  
Chaenothecopsis subpusilla (Vain.) Tibell: MIN HERB
- I Chrysothrix candelaris (L.) Fr.: Degelius, 1941  
Cladonia arbuscula (Wallr.) Rabenh.: Dey, 1978  
Cladonia bacillaris (Ach.) Nyl.: Degelius, 1941  
Cladonia botrytes (Hag.) Willd.: Degelius, 1941  
Cladonia caespiticia (Pers.) Flörke: Degelius, 1941, Dey,  
 1978  
Cladonia capitata (Michx.) Spreng.: Dey, 1978  
Cladonia caroliniana Schwein. ex Tuck.: Degelius, 1941  
Cladonia chlorophaea (Flörke ex Somm.) Spreng.: Degelius,  
 1941 Dey, 1978  
Cladonia coccifera (L.) Willd.: Degelius, 1941
- I Cladonia coniocraea (Flörke) Spreng.: Degelius, 1941,  
 Dey, 1978
- I Cladonia cristatella Tuck.: Degelius, 1941 Dey, 1978  
Cladonia didyma (Fee) Vain.: Degelius, 1941 Dey, 1978  
Cladonia digitata (L.) Hoffm.: Dey, 1978
- S-I Cladonia fimbriata (L.) Fr.: Degelius, 1941  
Cladonia floerkeana (Fr.) Flörke: Degelius, 1941  
Cladonia furcata (Huds.) Schrad.: Degelius, 1941, Dey,  
 1978  
Cladonia gracilis (L.) Willd.: Degelius, 1941 Dey, 1978  
Cladonia grayi Merr. ex Sandst.: Dey, 1978  
Cladonia portentosa (Duf.) Zahlbr.: Degelius, 1941  
Cladonia incrassata Flörke: Degelius, 1941 Dey, 1978  
Cladonia macilenta Hoffm.: Degelius, 1941 Dey, 1978  
Cladonia mateocyatha Robb.: Dey, 1978  
Cladonia merochlorophaea Asah.: Dey, 1974b, Dey, 1978  
Cladonia mitis Sandst.: Degelius, 1941  
Cladonia ochrochlora Flörke: Degelius, 1941  
Cladonia parasitica (Hoffm.) Hoffm.: Degelius, 1941  
Cladonia pityrea (Flörke) Fr.: Dey, 1978  
Cladonia pleurota (Flörke) Schaer.: Degelius, 1941  
Cladonia pyxidata (L.) Hoffm.: Degelius, 1941  
Cladonia rangiferina (L.) Wigg.: Degelius, 1941, Dey,  
 1978  
Cladonia rei Schaer.: Degelius, 1941  
Cladonia santensis Tuck.: Degelius, 1941  
Cladonia squamosa (Scop.) Hoffm.: Degelius, 1941, Dey,  
 1978, MIN HERB  
Cladonia subtenuis (Abb.) Evans: Degelius, 1941



- Cladonia uncialis (L.) Wigg.: Degelius, 1941  
Cladonia verticillata (Hoffm.) Schaer.: Dey, 1978  
Cladonia vulcanica Zoll.: Dey, 1978  
Coccocarpia cronia (Tuck.) Vain.: Dey, 1978  
Coccocarpia pellita (Ach.) Müll. Arg.: Degelius, 1941  
Collema cristatum (L.) Wigg.: Degelius, 1974  
Collema furfuraceum (Arn.) DR.: Degelius, 1941  
Collema leptaleum Tuck.: Degelius, 1974  
Collema nigrescens (Huds.) DC.: Dey, 1978  
Conotrema urceolatum (Ach.) Tuck.: Degelius, 1941  
Crocynia neglecta (Nyl.) Hue: Degelius, 1941  
Dendriscoaulon umhausense (Auersw.) Degel.: Degelius, 1941  
Dermatocarpon miniatum (L.) Mann.: Degelius, 1941  
Dimelaena chrysomelaena (Tuck.) Hale & W. Culb.: Degelius, 1941  
Dimerella diluta (Pers.) Zahlbr.: Degelius, 1941  
Dimerella lutea (Dicks.) Trev.: Degelius, 1941  
Dirinaria frostii (Tuck.) Hale & W. Culb.: Thomson, 1963  
Dirinaria picta (Sw.) Nyl.: Degelius, 1941  
Eopyrenula leucoplaca (Wallr.) R. Harris: MIN HERB  
Ephebe americana Henss.: Dey, 1978  
Ephebe lanata (L.) Vain.: Degelius, 1941  
Ephebe solida Bornet.: Degelius, 1941  
Erioderma mollissimum (Samp.) DR.: Degelius, 1941  
I Graphis scripta (L.) Ach.: Degelius, 1941  
Graphis tenella Ach.: Degelius, 1941  
Gymnoderma liniare (Evans) Yoshim. & Sharp: Yoshimura & Sharp, 1968a, Dey, 1978  
Haematomma cismonicum Beltram.: Degelius, 1941  
I Haematomma ochrophaeum (Tuck.) Mass.: Degelius, 1941, Culberson, 1963  
Heterodermia casarettiana (Mass.) Trev.: Dey, 1978  
Heterodermia corallophora (Tayl.) Lynge.: Degelius, 1941  
Heterodermia hypoleuca (Müll.) Vain., em. DR. et Lynge: Degelius, 1941  
Heterodermia leucomela Vain.: Degelius, 1941  
[Heterodermia microphylla (Kurok.) ined.: Yoshimura & Sharp, 1968b misident., see H. tremulans]  
Heterodermia obscurata (Nyl.) Trev.: Degelius, 1941, Dey, 1978  
Heterodermia propagulifera (Vainio) Dey: Dey, 1978  
Heterodermia speciosa (Wulf.) Mass., em. DR. et Lynge: Degelius, 1941  
\* Heterodermia squamulosa (Degel.) W. Culb.: Degelius, 1941, Dey, 1978  
Heterodermia tremulans (Müll. Arg.) W. Culb.: Yoshimura & Sharp, 1968b, Dey, 1978  
Huilia albocaerulescens (Wulf.) Hertel: Degelius, 1941  
Huilia crustulata (Ach.) Hertel: Degelius, 1941, MIN HERB  
Huilia macrocarpa (DC.) Hertel: Degelius, 1941  
Hypogymnia krogii Ohls.: Degelius, 1941, Dey, 1978, MIN HERB  
I Hypogymnia physodes (L.) W. Wats.: Degelius, 1941, Berry, 1941, MIN HERB

- S Hypogymnia tubulosa (Schaer.) Hav.: Degelius, 1941, Dey, 1978
- Hypogymnia vittata (Ach.) Gas.: Degelius, 1941, Dey, 1978
- Icmadophila ericetorum (L.) Zahlbr.: MIN HERB
- Lasallia papulosa (Ach.) Llano: Degelius, 1941, Llano, 1950
- \* Lasallia papulosa f. lacerata (Degel.) ined.: Degelius, 1941
- Lecania erysibe (Ach.) Mudd.: Degelius, 1941
- Lecanora strobilina (Spreng.) Kieff.: Degelius, 1941
- Lecanora hypoptoides Nyl.: Degelius, 1941
- \* Lecanora insignis Degel.: Degelius, 1941
- Lecanora lacustris (With.) Nyl.: Degelius, 1941
- \* Lecanora olivaceopallida Magn. in Degel.: Degelius, 1941
- Lecanora pinastri (Schaer.) Magn.: Degelius, 1941
- Lecanora piniperda (Körb.) Hedl.: Degelius, 1941
- Lecanora polytropa (Ehrh.) Rabenh.: Degelius, 1941
- I Lecanora subfusca (L.) Ach.: Degelius, 1941
- Lecanora subfuscata Magn.: Degelius, 1941
- \* Lecidea degelii Magn. in Degel.: Degelius, 1941
- \* Lecidea deminutula Magn. in Degel.: Degelius, 1941
- Lecidea granulosa (Ehrh.) Ach.: Degelius, 1941
- \* Lecidea gyrodes Magn. in Degel.: Degelius, 1941
- Lecidea helvola (Körb.) Th. Fr.: Degelius, 1941
- \* Lecidea helvola var. longispora Degel.: Degelius, 1941
- Lecidea humosa (Ehrh.) Nyl.: Degelius, 1941
- Lecidea latypea Ach.: Degelius, 1941
- Lecidea mollis (Wahlenb.) Nyl.: Degelius, 1941
- Lecidea subsimplex Magn.: Degelius, 1941
- \* Lecidea subtilis Degel.: Degelius, 1941
- Lecidea symmicta Ach.: Degelius, 1941
- I Lecidella elaeochroma (Ach.) Haszl.: Degelius, 1941
- I \* Lecidella elaeochroma var. inspersa (Degel.) ined.: Degelius, 1941
- Lepraria chlorina Ach.: Degelius, 1941
- Lepraria membranacea (Dicks.) Zahlbr.: Degelius, 1941
- Leptocaulon arbuscula (Nyl.) Nyl.: Lamb & Ward, 1974
- Leptogium americanum Degel.: Degelius, 1941, Sierk, 1964
- Leptogium burnetiae Dodge: Dey, 1978
- Leptogium chloromelum (Sw.) Nyl.: Degelius, 1941
- Leptogium corticola (Tayl.) Tuck.: Degelius, 1941, Dey, 1978
- Leptogium cyanescens (Ach.) Körb.: Degelius, 1941, Dey, 1978, MIN HERB
- Leptogium hirsutum Sierk: Sierk, 1964
- Leptogium laceroides B. de Lesd.: Dey, 1978
- Leptogium lichenoides (L.) Zahlbr.: Degelius, 1941
- Leptogium saturninum (Dicks.) Nyl.: Degelius, 1941
- Leptorhaphis parameca (Mass.) Körb.: Harris, 1973
- Leptorhaphis quercus (Beltr.) Körb.: MIN HERB
- S Lobaria pulmonaria (L.) Hoffm. Degelius, 1941
- Lobaria quercizans Michx. Degelius, 1941, MIN HERB
- Lobaria scrobiculata (Scop.) DC.: Degelius, 1941, Dey, 1978
- Melaspilea demissa (Tuck.) Zahlbr.: Degelius, 1941
- Menegazzia terebrata (Hoffm.) Mass.: Degelius, 1941, MIN

HERB

- \* Microthelia inops Degel.: Degelius, 1941
- I Mycoblastus sanguinarius (L.) Norm.: MIN HERB
- Nephroma helveticum Ach.: Degelius, 1941, Wetmore, 1960, Dey, 1978
- Nephroma parile (Ach.) Ach.: Degelius, 1941, Dey, 1978
- Nephroma resupinatum (L.) Ach.: Degelius, 1941, Dey, 1978
- S-I Normandina pulchella (Borr) Nyl.: Degelius, 1941
- Ocellularia subtilis (Tuck.) Riddle.: Degelius, 1941, MIN
- HERB
- Ochrolechia pallescens (L.) Mass.: Degelius, 1941
- Ochrolechia yasudae Vain.: Degelius, 1941
- Opegrapha cinerea Chev.: Degelius, 1941
- Pannaria leucosticta (Tuck.) Tuck. ex Nyl.: Degelius, 1941, Dey, 1978
- Pannaria microphylla (Sw.) Mass.: Degelius, 1941
- Pannaria pityrea (DC.) Degel.: Degelius, 1941, Dey, 1978
- Pannaria rubiginosa (Thunb. ex Ach.) Del.: Degelius, 1941, Dey, 1978
- Parmelia appalachensis W. Culb.: Dey, 1978, MIN HERB
- Parmelia arnoldii DuRietz: Degelius, 1941, Dey, 1978, MIN
- HERB
- Parmelia aurulenta Tuck.: Degelius, 1941, Dey, 1978
- Parmelia bolliana Müll. Arg.: Degelius, 1941
- Parmelia caperata (L.) Ach.: Degelius, 1941, Dey, 1978
- I \* Parmelia catawbiensis (Degel.) Hale & Worth: Degelius, 1941, Hale, 1971a, Dey, 1978
- Parmelia conspersa (Ach.) Ach.: Degelius, 1941, Dey, 1978
- Parmelia crinita Ach.: Degelius, 1941, Hale, 1965, Dey, 1978
- Parmelia croceopustulata Kurok.: Dey, 1978
- Parmelia cumberlandia (Gyeln.) Hale: Dey, 1978
- Parmelia densirhizinata Kurok.: Kurokawa, 1969, Dey, 1974a, Dey, 1978, Kurokawa Lich. Rar. Crit. Exs. #73
- Parmelia digitata Lynge: Kurokawa, 1969
- Parmelia dissecta Nyl.: Degelius, 1941, Dey, 1978
- Parmelia ensifolia Kurok. in Hale & Kurok.: Degelius, 1941, Hale, 1975
- Parmelia galbina Ach.: Degelius, 1941, Dey, 1978
- \* Parmelia gondilyophora Hale: Dey, 1974
- Parmelia halei Ahti: Ahti, 1966, Dey, 1978
- Parmelia horrescens Tayl.: Dey, 1978
- Parmelia imbricatula Zahlbr.: Degelius, 1941, Hale, 1975, Dey, 1978
- Parmelia laevigata (Sm.) Ach.: Degelius, 1941, Dey, 1978
- \* Parmelia lobulifera Degel.: Degelius, 1941
- Parmelia margaritata Hue: Dey, 1978
- \* [Parmelia margaritata var. luteoreagens Degel.: Degelius, 1941 = P. imbricatula Zahlbr.]
- \* [Parmelia margaritata var. insensitiva Degel.: Degelius, 1941 = P. ensifolia Kurok. in Hale & Kurok.]
- \* [Parmelia margaritata var. sanguineoreagens Degel.: Degelius, 1941 = P. rachista Hale]
- Parmelia mellissii Dodge: MIN HERB
- \* [Parmelia nakanishii Hale: Hale, 1971 = P. thysanota

- Kurok. in Hale & Kurok.]
- I Parmelia olivacea (L.) Ach. em. Nyl.: Degelius, 1941  
Parmelia oostingii Dey: Dey, 1974, Dey, 1978
- S Parmelia perlata (Huds.) Ach.: Degelius, 1941, Dey, 1978  
Parmelia plittii Gyeln.: Dey, 1978
- \* Parmelia producta (Hale) Dey: Hale, 1975, Dey, 1978  
 \* Parmelia rachista Hale: Hale, 1971b, Hale, 1975, Dey, 1978  
Parmelia reddenda Stirt.: Dey, 1978
- S Parmelia reticulata Tayl.: Degelius, 1941, Dey, 1978  
 I Parmelia revoluta Flörke: Degelius, 1941, Dey, 1978  
Parmelia rockii Zahlbr.: Dey, 1978
- I Parmelia rudecta Ach.: Degelius, 1941, Dey, 1978  
 I Parmelia saxatilis (L.) Ach.: Degelius, 1941, Dey, 1978  
Parmelia sinuosa (Sm.) Ach.: Dey, 1978
- S Parmelia squarrosa Hale: Dey, 1978  
Parmelia stuppea Tayl.: MIN HERB
- S Parmelia subaurifera Nyl.: Degelius, 1941, Dey, 1978  
Parmelia subisidiosa (Müll. Arg.) Dodge: Dey, 1978  
Parmelia subelegantula Essl.: Berry, 1941
- I Parmelia subrudecta Nyl.: Degelius, 1941, Dey, 1978  
 I-T Parmelia sulcata Tayl.: Dey, 1978  
Parmelia thysanota Kurok. in Hale & Kurok.: Dey, 1974b, Hale, 1975  
Parmelia virginica Hale: Dey, 1978  
Parmeliella corallinoides (Hoffm.) Zahlbr.: Degelius, 1941
- I Parmeliopsis aleurites (Ach.) Nyl.: Degelius, 1941, Dey, 1978, MIN HERB  
Peltigera canina (L.) Willd.: Degelius, 1941  
Peltigera canina var. rufescens (Weis.) Mudd: Degelius, 1941
- I Peltigera horizontalis (Huds.) Baumg.: Dey, 1978  
Peltigera polydactyla (Neck.) Hoffm.: Degelius, 1941, Thomson, 1950
- I Pertusaria amara (Ach.) Nyl.: Degelius, 1941, Dibben, 1980, MIN HERB  
Pertusaria leioterella Erichs.: Degelius, 1941  
Pertusaria macounii (Lamb) Dibb.: Dibben, 1980  
Pertusaria multipuncta (Turn.) Nyl.: Degelius, 1941  
Pertusaria neoscotica Lamb: Dibben, 1980  
Pertusaria ostiolata Dibb.: Dibben, 1980  
Pertusaria paratuberculifera Dibb.: Dibben, 1980, MIN HERB  
Pertusaria plittiana Erichs.: MIN HERB  
Pertusaria texana Müll. Arg.: Dibben, 1980, MIN HERB  
Pertusaria trachythallina Erichs.: Degelius, 1941, Dibben, 1980, MIN HERB  
Pertusaria velata (Turn.) Nyl.: Degelius, 1941, Dibben, 1980, MIN HERB  
Pertusaria waghornei Hult.: Dibben, 1980  
Phaeophyscia ciliata (Hoffm.) Essl.: Degelius, 1941, Dey, 1978  
Phaeophyscia erythrocardia (Tuck.) Essl.: Degelius, 1941, Thomson, 1963

- I Phaeophyscia orbicularis (Neck.) Moberg: Degelius, 1941  
Phaeophyscia rubropulchra (Degel.) Essl.: Degelius, 1941,  
 Thomson, 1963
- I Physcia aipolia (Ehrh.) Hampe: Degelius, 1941  
Physcia halei Thoms.: Thomson, 1963  
Physcia phaea (Tuck.) Thoms.: Degelius, 1941, Thomson,  
 1963, Dey, 1978
- I Physcia stellaris (L.) Nyl.: Degelius, 1941  
 \* Physcia subtilis Degel.: Degelius, 1941, Thomson, 1963  
Physcia wainioi Räs.: Degelius, 1941  
Pilophorus cereolus (Ach.) Th. Fr.: Yoshimura & Sharp,  
 1968b
- I Platismatia glauca (L.) W. Culb. & C. Culb.: Dey, 1978  
Platismatia tuckermanii (Oakes) W. Culb. & C. Culb.:  
 Culberson & Culberson, 1968 Dey, 1978, MIN HERB
- \* Pleurotrema solivagum Degel.: Degelius, 1941  
Polyblastia intercedens (Nyl.) Lönner.: Degelius, 1941  
Pseudevernia cladonia (Tuck.) Hale & W. Culb.: Degelius,  
 1941, Berry, 1941, Dey, 1978, MIN HERB  
Pseudevernia consocians (Vain.) Hale & W. Culb.:  
 Degelius, 1941, Dey, 1978, MIN HERB  
Pseudocyphellaria crocata (L.) Vain.: Degelius, 1941,  
 Dey, 1978  
Pseudocyphellaria mougeotiana (Del.) Vain.: Degelius,  
 1941, MIN HERB  
Pyrenopsis sanguinea Anzi.: Degelius, 1941  
Pyrenopsis subfuliginea Nyl.: Degelius, 1941  
Pyrenula bahiana Malme: Degelius, 1941, MIN HERB  
Pyrenula brunnea Fee: Degelius, 1941  
Pyxine sorediata (Ach.) Mont.: Degelius, 1941, Dey, 1978,  
 MIN HERB
- Ramalina sp.: Degelius, 1941
- S Ramalina americana Hale: Dey, 1978  
Ramalina intermedia (Del. ex Nyl.) Nyl.: Dey, 1978  
Rhizocarpon grande (Flörke ex Flot.) Arn.: Degelius, 1941
- \* Rhizocarpon intermedium Degel.: Degelius, 1941  
Rhizocarpon plicatile (Leight.) Sm.: Degelius, 1941  
Rhizocarpon reductum Th. Fr.: Degelius, 1941  
Rinodina ascociscana Tuck.: Degelius, 1941  
Rinodina confragosa (Ach.) Körb.: Degelius, 1941
- I Rinodina exigua (Ach.) S. Gray: Degelius, 1941  
Rinodina laevigata (Ach.) Malme.: Degelius, 1941  
Rinodina tephraspis (Tuck.) Herre.: Degelius, 1941, MIN  
 HERB
- Sarcogyne simplex (Dav.) Nyl.: Degelius, 1941
- \* Staurothele tenuissima Degel.: Degelius, 1941  
Stereocaulon dactylophyllum Flörke: Dey, 1978  
Stereocaulon pileatum Ach.: Degelius, 1941, Dey, 1978
- \* Stereocaulon tennesseense Magn. in Degel.: Degelius,  
 1941, Dey, 1978, MIN HERB  
Sticta fuliginosa (Dicks.) Ach.: Degelius, 1941, Dey,  
 1978  
Sticta limbata (Sm.) Ach.: Dey, 1974b, Dey, 1978  
Sticta weigeli (Insert ex Ach.) Vain.: Degelius, 1941,  
 Dey, 1978, MIN HERB

- Thermutis velutina (Ach.) Flot.: Degelius, 1941, MIN HERB  
Trypethelium virens Tuck. ex Michen. in Darl.: Degelius,  
 1941, MIN HERB  
Umbilicaria mammulata (Ach.) Tuck.: Sharp, 1930,  
 Degelius, 1941, Llano, 1950, Dey, 1978, MIN HERB  
Umbilicaria muehlenbergii (Ach.) Tuck.: Llano, 1950, Dey,  
 1978  
 S Usnea cavernosa Tuck.: Degelius, 1941  
Usnea ceratina Ach.: Dey, 1978  
Usnea confusa Asah.: Dey, 1978  
Usnea fulvoreaegens (Räs.) Räs.: Dey, 1978  
Usnea hesperina Mot.: Dey, 1978  
Usnea mollis Stirt.: Dey, 1978  
Usnea strigosa (Ach.) A. Eat.: Dey, 1978  
 S-I Usnea subfloridana Stirt.: Dey, 1978  
Usnea subfusca Stirt.: Dey, 1978  
Usnea trichodea Ach.: Dey, 1978  
Verrucaria sp.: Degelius, 1941  
 I Xanthoria polycarpa (Ehrh.) Oliv.: Dey, 1978



# GRSM REFERENCES

- Ahti, T. 1966. *Parmelia olivacea* and the allied non-isidiate and non-sorediate corticolous lichens in the Northern Hemisphere. *Acta Bot. Fenn.* 70:1-68.
- Berry, E. C. 1941. A monograph of the genus *Parmelia* in North America, north of Mexico. *Ann. Missouri Bot. Garden* 28: 31-146.
- Brodo, I. M. & D. L. Hawksworth. 1977. *Alectoria* and allied genera in North America. *Opera Botanica* 42:1-164.
- Culberson, W. L. 1962. Some pseudocyphellata *Parmeliae*. *Nova Hedwigia* 4: 563-577.
- Culberson, W. L. 1963. A summary of the lichen genus *Haematomma* in North America. *Bryologist* 66: 224-236.
- Culberson, W. L. 1965. *Cetraria chicitae*, a new and widely distributed lichen species. *Bryologist* 68: 95-99.
- Culberson, W. L. & C. F. Culberson. 1968. The lichen genera *Cetrelia* and *Platismatia* (*Parmeliaceae*). *Contrib. U. S. Nat. Herbarium* 34 (7):449-558.
- Culberson, W. L. & C. F. Culberson. 1978. *Cetrelia cetraroides* and *C. monachorum* (*Parmeliaceae*) in the New World. *Bryologist* 81: 517-523.
- Degelius, G. 1941. Contributions to the lichen flora of North America. II. The lichen flora of the Great Smoky Mountains. *Ark. Bot.* 30A(3):1-80.
- Degelius, G. 1974. The lichen genus *Collema* with special reference to the extra-European species. *Symb. Bot. Ups.* 20(2):1-215.
- Dey, J. P. 1974a. New and little known species of *Parmelia* (lichens) in the southern Appalachian Mountains. *Castanea* 39:360-369.
- Dey, J. P. 1974b. New records and distributions for several lichens in the southeastern United States. *Mycotaxon* 1:143-145.
- Dey, J. P. 1978. Fruticose and foliose lichens of the high-mountain areas of the Southern Appalachians. *Bryologist* 81:1-93.
- Dibben, M. J. 1980. The chemosystematics of the lichen genus *Pertusaria* in North America north of Mexico. *Milwaukee Public Museum, Biol.* 5:1-162.
- Hale, M. E. 1965. A monograph of *Parmelia* subgenus *Amphigymnia*. *Contrib. U. S. Nat. Herb.* 36 (5):193-358.
- Hale, M. E. 1967. New taxa in *Cetraria*, *Parmelia*, and *Parmeliopsis*. *Bryologist* 70:414-422.
- Hale, M. E. 1971a. New species of *Parmelia* Sect. *Hypotrachyna* (Lichens). *Phytologia* 22:433-438
- Hale, M. E. 1971b. Notes on *Parmelia* subgenus *Everniiformes* with descriptions of six new species. *Phytologia* 22:36-40
- Hale, M. E. 1975. A revision of the lichen genus *Hypotrachyna* (*Parmeliaceae*) in Tropical America. *Smithsonian Contrib. Bot.* 25:1-73.
- Harris, R. C. 1973. The corticolous pyrenolichens of the Great Lakes Region. *Michigan Botanist* 12:3-68.
- Imshaug, H. A. 1951. The lichen-forming species of the genus

- Buellia occurring in the United States and Canada. PhD. thesis, Univ. of Michigan.
- Jennison, H. M. 1939. Flora of the Great Smokies. Jour. Tenn. Acad. Sci. 14: NOT SEEN
- Kurokawa, S. 1969. On the occurrence of two Parmeliae in North America. Misc. Bryol. Lichenol. 5:7.
- Kurokawa, S. 1969a. Lichens rariores et critici exsiccati. Fasc. II (nos. 51-100).
- Kurokawa, S. 1969b. On the occurrence of two Parmeliae in North America. Misc. Bryol. Lichen. 5:7.
- Lamb, I. M. & A. Ward. 1974. A preliminary conspectus of the species attributed to the imperfect lichen genus Leprocaulon Nyl. Jour. Hattori Bot. Lab. 38:499-553.
- Llano, G. A. 1950. A monograph of the lichen family Umbilicariaceae in the western hemisphere. Off. Naval Res., Washington, D. C. (Navexos P-831):1-281.
- Mozingo, H. N. 1954. Two notable additions to the lichen flora of the Great Smoky Mountains National Park. Bryologist 57:31-33.
- Sharp, A. J. 1930. A lichen as a substrate for mosses. Bryologist 33:83.
- Sierk, H. A. 1964. The genus Leptogium in North America north of Mexico. Bryologist 67:245-317.
- Thomson, J. W. 1950. The species of Peltigera of North America north of Mexico. Amer. Midl. Nat. 44:1-68.
- Thomson, J. W. 1963. The lichen genus Physcia in North America. Nova Hedwigia, Beih. 7, viii + 172.
- Wetmore, C. M. 1960. The lichen genus Nephroma in North and Middle America. Publ. Museum, Michigan State Univ., Biol. Ser. 1:369-452.
- Yoshimura, I. & J. Sharp. 1968a. A revision of the genus Gymnoderma. Amer. Jour. Bot. 55:635-640.
- Yoshimura, I. & J. Sharp. 1968b. Some lichens from the southern Appalachians and Mexico. Bryologist 71:108-113.



GRTE - GRAND TETON NATIONAL PARK

Total number of species = 17 : Poorly known

- Aspicilia caesiocinerea (Nyl. ex Malbr.) Arn.: Spence, 1981  
Cladonia chlorophaea (Flörke ex Somm.) Spreng.: Imshaug, 1957  
Collema glebulentum (Nyl. ex Cromb.) Degel.: Degelius, 1974  
Lecanora polytropa (Ehrh.) Rabenh.: Spence, 1981  
Lecanora thomsonii Magn.: Spence, 1981  
Lecidea atrobrunnea (Ram.) Schaer.: Spence, 1981  
Omphalodiscus krascheninnikovii (Sav.) Schol.: Spence, 1981, Imshaug, 1957  
Parmelia taractica Kremp.: Imshaug, 1957  
Peltigera canina (L.) Willd.: Spence, 1981  
Peltigera canina var. rufescens (Weis) Mudd: Imshaug, 1957  
T Physcia dubia (Hoffm.) Lett.: Thomson, 1954, Thomson, 1963  
Physconia muscigena (Ach.) Poelt: Imshaug, 1957, Thomson, 1963  
Pseudephebe minuscula (Nyl. ex Arn.) Brodo & Hawksw.: Imshaug, 1957  
Rhizocarpon geographicum (L.) DC.: Spence, 1981  
Rhizoplaca melanophthalma (Ram.) Leuck. & Poelt: Spence, 1981  
Stereocaulon alpinum Laur.: Spence, 1981  
Xanthoria elegans (Link) Th. Fr.: Spence, 1981

GRTE REFERENCES

- Degelius, G. 1974. The lichen genus Collema with special reference to the extra-European species. *Symb. Bot. Ups.* 20(2):1-215.  
Imshaug, H. A. 1957. Alpine lichens of western United States and adjacent Canada. I, The macrolichens. *Bryologist* 60:177-272.  
Mahaney, W. C. 1975. Soils of post-Audubon age, Teton Glacier area, Wyoming. *Arctic and Alpine Research* 7:141-153. NOT SEEN  
Spence, J. R. 1981. Comments on the cryptogam vegetation in front of glaciers in the Teton Range. *Bryologist* 84:564-568.  
Thomson, 1954. Lichens of the 1951 foray to the north shore of Lake Superior. *Bryologist* 57:278-291.  
Thomson, J. W. 1963. The lichen genus Physcia in North America. *Nova Hedwigia*, Beih. 7, viii + 172.

GUMO - GUADALUPE MOUNTAINS NATIONAL PARK

No lichens reported : Unknown

ISRO - ISLE ROYALE NATIONAL PARK

Total number of species = 489 : Completely known

- Abrothallus oxysporus Tul.: Hedrick & Lowe, 1936  
Acarospora americana Magn.: MIN HERB  
Acarospora badiofusca (Nyl.) Th. Fr.: Harris, 1978, MIN  
 HERB  
Acarospora fuscata (Schrad.) Arn.: MIN HERB  
Acarospora glaucocarpa (Wahlenb. ex Ach.) Krb.: Hedrick  
 & Lowe, 1936  
Acrocordia cavata (Ach.) Harris in Vezda: Harris, 1973  
Acrocordia gemmata (Ach.) Mass.: Hedrick & Lowe, 1936  
 S-I Anaptychia setifera Rh.s.: Hedrick & Lowe, 1936, MIN HERB  
Arthonia caesia (Flot.) Krb.: MIN HERB  
Arthonia convexella Nyl.: Hedrick & Lowe, 1936  
Arthonia didyma Krb.: MIN HERB  
Arthonia diffusella Fink in Hedr.: Hedrick & Lowe, 1936,  
 Herdick, 1933  
Arthonia dispersa (Schrad.) Nyl.: MIN HERB  
Arthonia lecideella Nyl.: Hedrick & Lowe, 1936  
Arthonia patellulata Nyl.: MIN HERB  
Arthonia lurida Ach.: Hedrick & Lowe, 1936, Thomson, 1951  
 I Arthonia radiata (Pers.) Ach.: Hedrick & Lowe, 1936  
Arthopyrenia faginea (Schaer.) Swinsc.: MIN HERB  
Arthopyrenia punctiformis Mass.: Hedrick & Lowe, 1936,  
 Harris, 1973  
Aspicilia alphoplaca Wahlenb. ex Ach.: Harris, 1978, MIN  
 HERB  
Aspicilia caesiocinerea (Nyl. ex Malbr.) Arn.: MIN HERB  
Aspicilia cinerea (L.) Krb.: Hedrick & Lowe, 1936, MIN  
 HERB  
Aspicilia contorta (Hoffm.) Kremp.: MIN HERB  
Aspicilia gibbosa (Ach.) Krb.: Hedrick & Lowe, 1936  
Aspicilia laevata (Ach.) Arn.: Hedrick & Lowe, 1936  
Bacidia acclinis (Mass.) Zahlbr.: Hedrick & Lowe, 1936  
Bacidia atrogrisea (Del.) Krb.: Hedrick & Lowe, 1936  
Bacidia bagliettoana (Mass. & De Not.) Jatta: Hedrick &  
 Lowe, 1936, Thomson, 1951  
 I Bacidia chlorococca (Graewe ex Stitzenb.) Lett.: MIN HERB  
Bacidia epixanthoides (Nyl.) Lett.: MIN HERB  
Bacidia fuscorubella (Hoffm.) Bausch: Hedrick & Lowe,  
 1936  
Bacidia incompta (Borr. ex Hook.) Anzi: Hedrick & Lowe,  
 1936  
Bacidia inundata (Fr.) Krb.: Hedrick & Lowe, 1936  
Bacidia lignaria (Ach.) Lett.: Hedrick & Lowe, 1936  
Bacidia naegelli (Hepp) Zahlbr.: Hedrick & Lowe, 1936  
Bacidia rosella (Pers.) De Not.: MIN HERB  
 I Bacidia rubella (Hoffm.) Mass.: Hedrick & Lowe, 1936, MIN  
 HERB  
Bacidia sabuletorum (Schreb.) Lett.: Hedrick & Lowe, 1936  
Bacidia schweinitzii (Tuck.) Schneid.: Hedrick & Lowe,  
 1936  
Bacidia sphaeroides (Dicks.) Zahlbr.: Hedrick & Lowe,

- 1936, MIN HERB
- Bacidia suffusa (Fr.) Schneid.: Hedrick & Lowe, 1936
- Bacidia umbrina (Ach.) Bausch: MIN HERB
- Baeomyces rufus (Huds.) Rebent.: Hedrick & Lowe, 1936,  
MIN HERB
- Bryoria capillaris (Ach.) Brodo & Hawksw.: Brodo & Hawksworth, 1977, Harris, 1978, MIN HERB
- Bryoria chalybeiformis (L.) Brodo & Hawksw.: Brodo & Hawksworth, 1977, Harris, 1978, MIN HERB
- S Bryoria furcellata (Fr.) Brodo & Hawksw.: Hedrick & Lowe, 1936, MIN HERB
- I Bryoria fuscescens (Gyeln.) Brodo & Hawksw.: MIN HERB
- S Bryoria implexa (Hoffm.) Brodo & Hawksw.: Hedrick & Lowe, 1936, MIN HERB
- Bryoria nadvornikiana (Gyeln.) Brodo & Hawksw.: Harris, 1978, MIN HERB
- S Bryoria trichodes (Michx.) Brodo & Hawksw.: Brodo & Hawksworth, 1977, MIN HERB
- S Bryoria trichodes subsp. americana (Mot.) Brodo & Hawksw.: Hedrick & Lowe, 1936
- I Buellia alboatra (Hoffm.) Branth & Rostr.: Imshaug, 1951, Harris, 1978
- Buellia arnoldii Serv. & Nadv.: MIN HERB
- Buellia dialyta (Nyl.) Tuck.: Hedrick & Lowe, 1936
- Buellia disciformis (Fr.) Mudd: Hedrick & Lowe, 1936, Imshaug, 1951, MIN HERB
- Buellia epipolia (Ach.) Mong.: Hedrick & Lowe, 1936
- Buellia inquilina Tuck.: Hedrick & Lowe, 1936
- Buellia lauri-cassiae (Fee) Müll.: Arg., Hedrick & Lowe, 1936
- T Buellia punctata (Hoffm.) Mass.: Hedrick & Lowe, 1936, Imshaug, 1951
- Buellia schaeereri De Not.: MIN HERB
- Buellia spuria (Schaer.) Anzi: Hedrick & Lowe, 1936
- I Buellia stillingiana J. Stein.: Imshaug, 1951, MIN HERB
- ~~Buellia turgescens Tuck.: MIN HERB = *Rhizocarpon badiatum*~~
- Calicium glaucellum Ach.: Tibell, 1975, Harris, 1978
- Calicium parvum Tibell: Tibell, 1975
- Calicium salicinum Pers.: Hedrick & Lowe, 1936, Tibell, 1975, MIN HERB
- Calicium trabinellum (Ach.) Ach.: Tibell, 1975, MIN HERB
- Caloplaca arenaria (Pers.) Müll. Arg.: MIN HERB
- S-I Caloplaca cerina (Ehrh.) Th. Fr.: Hedrick & Lowe, 1936, MIN HERB
- Caloplaca chrysophthalma Degel.: MIN HERB
- Caloplaca cinnabarina (Ach.) Zahlbr.: Hedrick & Lowe, 1936, MIN HERB
- Caloplaca citrina (Hoffm.) Th. Fr.: Hedrick & Lowe, 1936, MIN HERB
- Caloplaca epithallina Lynge: MIN HERB
- Caloplaca ferruginea (Huds.) Th. Fr.: Hedrick & Lowe, 1936
- Caloplaca flavovirescens (Wulf.) Dalla Torre & Sarnth.: MIN HERB
- I Caloplaca holocarpa (Hoffm.) Wade: Hedrick & Lowe, 1936,

MIN HERB

- Caloplaca obliterans (Nyl.) Jatta: Harris, 1978  
Caloplaca sideritis (Tuck.) Zahlbr.: Hedrick & Lowe, 1936, Harris, 1978  
Caloplaca ulmorum (Fink) Fink: Hedrick & Lowe, 1936, Rudolph, 1955  
I-T Caloplaca vitellinula (Nyl.) Oliv.: MIN HERB  
S-I Candelaria concolor (Dicks.) B. Stein: Hedrick & Lowe, 1936  
Candelariella aurella (Hoffm.) Zahlbr.: Hedrick & Lowe, 1936  
Candelariella efflorescens Harris & Buck: Harris & Buck, 1978  
I Candelariella vitellina (Ehrh.) Müll. Arg.: Hedrick & Lowe, 1936, MIN HERB  
Catillaria atropurpurea (Schaer.) Th. Fr.: Hedrick & Lowe, 1936  
S Catillaria griffithii (Sm.) Malme: Harris, 1978  
Catillaria micrococca (Körb.) Th. Fr.: Hedrick & Lowe, 1936  
~~Cetraria arenaria Kärnef.: MIN HERB : *C. ericetrum*~~  
Cetraria aurescens Tuck.: Hedrick & Lowe, 1936, MIN HERB  
Cetraria ciliaris Ach.: Hedrick & Lowe, 1936  
Cetraria ericetorum Opiz.: Fink, 1919  
Cetraria ericetorum subsp. reticulata (Räs.) Kärnef.: Kärnefelt, 1979  
Cetraria halei W. Culb. & C. Culb.: MIN HERB  
Cetraria hepatizon (Ach.) Vain.: Hedrick & Lowe, 1936, Harris, 1978, MIN HERB  
Cetraria islandica (L.) Ach.: Harris, 1978, MIN HERB  
Cetraria oakesiana Tuck.: MIN HERB  
I Cetraria orbata (Nyl.) Fink: MIN HERB  
I Cetraria pinastri (Scop.) S. Gray: Hedrick & Lowe, 1936, MIN HERB  
I Cetraria sepincola (Ehrh.) Ach.: Hedrick & Lowe, 1936, MIN HERB  
Cetrelia cetrarioides (Del. ex Duby) W. Culb. & C. Culb.: Stuntz & Allen, 1933, Hedrick & Lowe, 1936, Berry, 1941, Culberson, 1962, MIN HERB  
Cetrelia chicitae (W. Culb.) W. Culb. & C. Culb.: Culberson, 1965, MIN HERB  
Cetrelia olivetorum (Nyl.) W. Culb. & C. Culb.: Culberson & Culberson, 1968, MIN HERB  
Chaenotheca brunneola (Ach.) Müll. Arg.: Tibell, 1975, MIN HERB  
Chaenotheca chrysocephala (Turn.) Th. Fr.: Hedrick & Lowe, 1936, Tibell, 1975, MIN HERB  
I Chaenotheca ferruginea (Turn. & Sm.) Mig.: Hedrick & Lowe, 1936, Tibell, 1975, MIN HERB  
Chaenotheca hispidula (Ach.) Zahlbr.: Tibell, 1975  
Chaenotheca laevigata Nadv.: Tibell, 1975  
Chaenotheca phaeocephala (Turn.) Th. Fr.: Hedrick & Lowe, 1936, MIN HERB  
Chaenotheca schaereri (De Not.) Zahlbr.: Tibell, 1975, Harris, 1978

- Chaenotheca stemonea (Ach.) Müll. Arg.: Tibell, 1975  
Chaenotheca trichialis (Ach.) Th. Fr.: Tibell, 1975  
Chaenotheca trichialis var. cinerea (Pers.) Blombg. & Forss.: Herdick & Lowe, 1936  
Chaenotheca xyloxena Nadv.: Tibell, 1975  
Chaenothecopsis consociata (Nadv.) A. Schmidt: Tibell, 1975, Harris, 1978  
Chaenothecopsis debilis (Turn. & Borr. in Schaer.) Tibell: Tibell, 1975, Harris, 1978, MIN HERB  
Chaenothecopsis lignicola (Nadv.) A. Schmidt: Tibell, 1975, Harris, 1978  
Chaenothecopsis rubescens Vain.: Tibell, 1975  
Chaenothecopsis subpusilla (Vain.) Tibell: Tibell, 1975  
Chaenothecopsis viridialba (Kremp.) A. Schmidt: Tibell, 1975  
Chaenothecopsis viridireagens (Nadv.) Schmidt: Tibell, 1975, Harris, 1978  
Cladonia amaurocraea (Flörke) Schaer.: Holt, 1908, Hedrick & Lowe, 1936, MIN HERB  
Cladonia apodocarpa Robb.: MIN HERB  
Cladonia arbuscula (Wallr.) Rabenh.: Hedrick & Lowe, 1936  
Cladonia bacillaris (Ach.) Nyl.: Hedrick & Lowe, 1936, MIN HERB  
Cladonia botrytes (Hag.) Willd.: Hedrick & Lowe, 1936, MIN HERB  
Cladonia capitata (Michx.) Spreng.: Hedrick & Lowe, 1936  
Cladonia cariosa (Ach.) Spreng.: Harris, 1975, MIN HERB  
Cladonia cenotea (Ach.) Schaer.: Hedrick & Lowe, 1936, MIN HERB  
Cladonia chlorophaea (Flörke ex Somm.) Spreng.: Hedrick & Lowe, 1936, MIN HERB  
Cladonia coccifera (L.) Willd.: Hedrick & Lowe, 1936, Harris, 1978, MIN HERB  
I Cladonia coniocraea (Flörke) Spreng.: Holt, 1908, Hedrick & Lowe, 1936, MIN HERB  
Cladonia cornuta (L.) Hoffm.: Hedrick & Lowe, 1936  
Cladonia crispata (Ach.) Flot.: Holt, 1908, Hedrick & Lowe, 1936, MIN HERB  
I Cladonia cristatella Tuck.: Holt, 1908, Hedrick & Lowe, 1936, MIN HERB  
Cladonia cryptochlorophaea Asah.: MIN HERB  
Cladonia cyanipes (Fr.) Flörke: Harris, 1978  
Cladonia decorticata (Flörke) Spreng.: Hedrick & Lowe, 1936, MIN HERB  
Cladonia deformis (L.) Hoffm.: Holt, 1908, Hedrick & Lowe, 1936, MIN HERB  
Cladonia digitata (L.) Hoffm.: Hedrick & Lowe, 1936, MIN HERB  
S-I Cladonia fimbriata (L.) Fr.: Hedrick & Lowe, 1936, MIN HERB  
Cladonia floerkeana (Fr.) Flörke: Hedrick & Lowe, 1936  
Cladonia furcata (Huds.) Schrad.: Hedrick & Lowe, 1936, MIN HERB  
Cladonia gracilis (L.) Willd.: Holt, 1908, Hedrick & Lowe, 1936, MIN HERB

Cladonia grayi Merr. & Sandst.: MIN HERB  
Cladonia macilenta Hoffm.: Hedrick & Lowe, 1936  
Cladonia merochlorophaea Asah.: MIN HERB  
Cladonia mitis Sandst.: MIN HERB  
Cladonia multiformis Merr.: Hedrick & Lowe, 1936, MIN  
 HERB  
Cladonia parasitica (Hoffm.) Hoffm.: Hedrick & Lowe, 1936  
Cladonia phyllophora Hoffm.: Hedrick & Lowe, 1936, MIN  
 HERB  
Cladonia pityrea (Flörke) Fr.: Hedrick & Lowe, 1936  
Cladonia pleurota (Flörke) Schaer.: Hedrick & Lowe, 1936,  
 MIN HERB  
Cladonia poccilum (Ach.) O. Rich.: Hedrick & Lowe, 1936  
Cladonia pseudorangiformis Asah.: Harris, 1978  
Cladonia pyxidata (L.) Hoffm.: Hedrick & Lowe, 1936, MIN  
 HERB  
Cladonia rangiferina (L.) Wigg.: Holt, 1908, Hedrick &  
 Lowe, 1936, MIN HERB  
Cladonia rei Schaer.: Hedrick & Lowe, 1936, MIN HERB  
Cladonia scabriuscula (Del. ex Duby) Nyl.: Hedrick &  
 Lowe, 1936, MIN HERB  
Cladonia squamosa (Scop.) Hoffm.: Hedrick & Lowe, 1936,  
 MIN HERB  
Cladonia stellaris (Opiz) Pouz. & Vezda: Holt, 1908,  
 Hedrick & Lowe, 1936, MIN HERB  
Cladonia subulata (L.) Wigg.: Hedrick & Lowe, 1936, MIN  
 HERB  
Cladonia sulphurina (Michx.) Fr.: Harris, 1978, MIN HERB  
Cladonia symphycarpa (Ach.) Fr.: MIN HERB  
Cladonia turgida (Ehrh.) Hoffm.: Holt, 1908, Hedrick &  
 Lowe, 1936, MIN HERB  
Cladonia uncialis (L.) Wigg.: Hedrick & Lowe, 1936, MIN  
 HERB  
Cladonia verticillata (Hoffm.) Schaer.: Holt, 1908,  
 Hedrick & Lowe, 1936, MIN HERB  
Collema cyrtaspis Tuck.: Hedrick & Lowe, 1936  
Collema glebulentum (Nyl. ex Cromb.) Degel.: Degelius,  
 1974  
Collema polycarpon Hoffm.: MIN HERB  
Collema tenax (Sw.) Ach.: Hedrick & Lowe, 1936  
Collema undulatum Laur. ex Flot.: MIN HERB  
Coniocybe furfuracea (L.) Ach.: Hedrick & Lowe, 1936,  
 Tibell, 1975, MIN HERB  
Coniocybe sulphurea (Retz.) Pers.: Tibell, 1975, Harris,  
 1978  
Conotrema urceolatum (Ach.) Tuck.: MIN HERB  
Cyphelium lucidum (Th. Fr.) Th. Fr.: Hedrick & Lowe,  
 1936, Tibell, 1975  
Cyphelium tigillare (Ach.) Ach.: Hedrick & Lowe, 1936,  
 Tibell, 1975, MIN HERB  
Dermatocarpon miniatum (L.) Mann: Holt, 1908, Hedrick &  
 Lowe, 1936, MIN HERB  
Dermatocarpon moulinii (Mont.) Zahlbr.: MIN HERB  
Dermatocarpon reticulatum Magn.: Harris, 1978, MIN HERB  
Dermatocarpon weberi (Ach.) Mann: Holt, 1908, MIN HERB



- Dimerella diluta (Pers.) Trev.: Hedrick & Lowe, 1936, MIN  
HERB
- S Dimelaena oreina (Ach.) Norm.: Hedrick & Lowe, 1936
- Dimerella lutea (Dicks.) Trev.: Hedrick & Lowe, 1936, MIN  
HERB
- Diploschistes scruposus (Schreb.) Norm.: Hedrick & Lowe,  
1936, MIN HERB
- Endocarpon pulvinatum Th. Fr.: Harris, 1978, MIN HERB
- Eopyrenula leucoplaca (Wallr.) R. Harris: MIN HERB
- Ephebe lanata (L.) Vain.: MIN HERB
- Ephebe ocellata Hess.: MIN HERB
- Ephebe solida Born.: MIN HERB
- I Evernia mesomorpha Nyl.: Holt, 1908, Hedrick & Lowe,  
1936, MIN HERB
- I Graphis scripta (L.) Ach.: Hedrick & Lowe, 1936, MIN HERB
- Gyalecta jenensis (Batsch) Zahlbr.: Hedrick & Lowe, 1936,  
Harris 1978
- Haematomma elatinum (Ach.) Mass.: Hedrick & Lowe, 1936,  
MIN HERB
- Heterodermia hypoleuca (Mühl.) Trev.: Hedrick & Lowe,  
1936
- Heterodermia leucomela (L.) Poelt: Hedrick & Lowe, 1936
- Heterodermia speciosa (Wulf.) Trev.: Hedrick & Lowe,  
1936, MIN HERB
- Huilia albocaerulescens (Wulf.) Hertel: Hedrick & Lowe,  
1936
- Huilia macrocarpa (DC.) Hertel: MIN HERB
- I Hyperphyscia adglutinata (Flörke.) Mayrh. & Poelt:  
Hedrick & Lowe, 1936
- I Hypogymnia physodes (L.) W. Wats.: Hedrick & Lowe, 1936,  
Berry, 1941, MIN HERB
- S Hypogymnia tubulosa (Schaer.) Hav.: MIN HERB
- Icmadophila ericetorum (L.) Zahlbr.: Holt, 1908, Hedrick  
& Lowe, 1936, MIN HERB
- [Lasallia pustulata (L.) Mer.: Hedrick & Lowe, 1936 ident.  
uncertain]
- Lecania dimera (Nyl.) Th. Fr.: MIN HERB
- I Lecanora allophana Nyl.: Holt, 1908, Hedrick & Lowe,  
1936, MIN HERB
- Lecanora atra (Huds.) Ach.: Hedrick & Lowe, 1936, MIN  
HERB
- Lecanora badia (Hoffm.) Ach.: MIN HERB
- Lecanora caesiorubella Ach.: MIN HERB
- Lecanora caesiorubella subsp. caesiorubella Ach.: Imshaug  
& Brodo, 1966
- I Lecanora carpinea (L.) Vain.: Hedrick & Lowe, 1936,  
Imshaug & Brodo, 1966, Harris, 1978
- Lecanora cateileia (Ach.) Mass.: Imshaug & Brodo, 1966,  
Harris, 1978, MIN HERB
- Lecanora cenisia Ach.: Harris, 1978, MIN HERB
- I Lecanora coilocarpa (Ach.) Nyl.: Hedrick & Lowe, 1936,  
MIN HERB
- Lecanora frustulosa (Dicks.) Ach.: Holt, 1908, Hedrick &  
Lowe, 1936, Harris, 1978, MIN HERB
- Lecanora garovaglii (Körb.) Zahlbr.: Hedrick & Lowe, 1936



- T Lecanora hageni (Ach.) Ach.: Hedrick & Lowe, 1936,  
Harris, 1978  
Lecanora impudens Degel.: MIN HERB  
Lecanora meridionalis Magn.: MIN HERB
- T Lecanora muralis (Schreb.) Rabenh.: Holt, 1908, Hedrick &  
Lowe, 1936, Harris, 1978, MIN HERB
- I Lecanora pallida (Schreb.) Rabenh.: Hedrick & Lowe, 1936,  
MIN HERB
- I Lecanora pallida (Schreb.) Rabenh. var. pallida: Imshaug  
& Brodo, 1966, Harris, 1978
- I Lecanora pallida var. rubescens Imsh. & Brodo: Imshaug &  
Brodo, 1966  
Lecanora polytropa (Ehrh.) Rabenh.: MIN HERB  
Lecanora pulcaris (Pers.) Ach.: MIN HERB  
Lecanora rugosella Zahlbr.: Hedrick & Lowe, 1936, MIN  
HERB  
Lecanora rupicola (L.) Zahlbr.: Hedrick & Lowe, 1936,  
Harris, 1978, MIN HERB  
Lecanora sambuci (Pers.) Nyl.: Hedrick & Lowe, 1936  
Lecanora strobilina (Spreng.) Kieff.: MIN HERB
- I Lecanora subfusca (L.) Ach.: Hedrick & Lowe, 1936
- I Lecanora subfusca var. argentata Ach.: Hedrick & Lowe,  
1936
- I Lecanora symmictera Nyl.: MIN HERB  
Lecanora thysanophora Harris ined.: MIN HERB  
Lecanora varia (Ehrh.) Ach.: MIN HERB  
Lecanora versicolor (Pers.) Ach.: Hedrick & Lowe, 1936  
Lecidea aeruginosa Borr.: MIN HERB
- I Lecidea albofuscescens Nyl.: Harris, 1978, MIN HERB  
Lecidea anthracophila Nyl.: Hedrick & Lowe, 1936  
Lecidea atrobrunnea (Ram.) Schaer.: MIN HERB  
Lecidea berengeriana (Mass.) Nyl.: MIN HERB  
Lecidea carnulenta (Tuck.) Fink: Hedrick & Lowe, 1936  
Lecidea contigua (Hoffm.) Fr.: Hedrick & Lowe, 1936  
Lecidea cyrtidea Tuck.: Hedrick & Lowe, 1936  
Lecidea elabens Fr.: Hedrick & Lowe, 1936  
Lecidea epixanthoidiza Nyl.: MIN HERB  
Lecidea erythrophaea Flörke: MIN HERB  
Lecidea friesii Ach.: MIN HERB  
Lecidea fusca (Schaer.) Th. Fr.: MIN HERB  
Lecidea fuscescens Somm.: Lowe, 1935, Hedrick & Lowe,  
1936  
Lecidea fuscoatra (L.) Ach.: Hedrick & Lowe, 1936,  
Harris, 1978  
Lecidea gelatinosa Flörke: Harris, 1978  
Lecidea globifera Ach.: Fink, 1919, Hedrick & Lowe, 1936,  
Harris, 1978, MIN HERB  
Lecidea granulosa (Ehrh.) Ach.: Hedrick & Lowe, 1936, MIN  
HERB  
Lecidea helvola (Körb.) Oliv.: MIN HERB  
Lecidea insularis Nyl.: MIN HERB  
Lecidea lapicida (Ach.) Ach.: Hedrick & Lowe, 1936  
Lecidea lithophila (Ach.) Ach.: Harris, 1978  
Lecidea lurida (Dill.) Ach.: Fink, 1919, Hedrick & Lowe,  
1936

- Lecidea oligotropa Laund.: MIN HERB  
Lecidea pantherina (Hoffm.) Th. Fr.: Hedrick & Lowe, 1936  
 [ Lecidea parasema Ach.: Hedrick & Lowe, 1936 ident.  
     uncertain ]  
 [ Lecidea parasema var. theioplaca (Tuck.) Zahlbr.: Hedrick  
     & Lowe, 1936 ident. uncertain ]  
Lecidea paupercula Th. Fr.: MIN HERB  
Lecidea plana Lahm ex K rb.: MIN HERB  
Lecidea rubiformis (Wahlenb. ex Ach.) Wahlenb.: MIN HERB  
Lecidea sanguineoatra (Wulf.) Ach.: Hedrick & Lowe, 1936  
 [ Lecidea sapinea (Fr.) Zahlbr.: Hedrick & Lowe, 1936  
     misident. ]
- I   Lecidea scalaris (Ach.) Ach.: MIN HERB  
Lecidea speirea (Ach.) Ach.: Harris, 1978, MIN HERB  
Lecidea tessellata (Ach.) Fl rke: Hedrick & Lowe, 1936,  
     Harris, 1978, MIN HERB  
Lecidea turgidula Fr.: Hedrick & Lowe, 1936  
Lecidea uliginosa (Schr d.) Ach.: Hedrick & Lowe, 1936,  
     MIN HERB  
Lecidea varians Ach.: Hedrick & Lowe, 1936
- S   Lecidea vernalis (L.) Ach.: Hedrick & Lowe, 1936, MIN  
     HERB
- I   Lecidella carpathica K rb.: Harris, 1978, MIN HERB  
Lecidella elaeochroma (Ach.) Haszl. var. hyalina (Mart.)  
     Zahlbr.: Hedrick & Lowe, 1936, Harris, 1978  
Lecidella euphorea (Fl rke) Hertel: MIN HERB  
Lecidella stigmatia (Ach.) Hertel & Leuck.: Hedrick &  
     Lowe, 1936, MIN HERB  
Lepraria finkii (B. de Lesd. in Hue) ined.: MIN HERB  
Lepraria membranacea (Dicks.) Vain.: Hedrick & Lowe, 1936  
Lepraria neglecta (Nyl.) Lett.: MIN HERB  
Leptogium burnetiae Dodge: MIN HERB  
Leptogium corticola (Tayl.) Tuck.: Hedrick & Lowe, 1936  
Leptogium cyanescens (Ach.) K rb.: Hedrick & Lowe, 1936,  
     MIN HERB  
Leptogium lichenoides (L.) Zahlbr.: Hedrick & Lowe, 1936,  
     MIN HERB  
Leptogium plicatile (Ach.) Leight.: Hedrick & Lowe, 1936  
Leptogium saturninum (Dicks.) Nyl.: Hedrick & Lowe, 1936,  
     MIN HERB  
Leptogium sinuatum (Huds.) Mass.: Sierk, 1964, Harris,  
     1978
- [ Leptogium tremelloides: Hedrick & Lowe, 1936 misident. ]  
Letorhaphis atomaria (Schaerer) Szat.: Harris, 1973  
Letorhaphis contorta Degel.: Harris, 1973  
Letorhaphis epidermidis (Ach.) Th. Fr.: Hedrick & Lowe,  
     1936, Harris, 1973, MIN HERB  
Letorhaphis paramica (Mass.) K rb.: Harris, 1973
- S   Lobaria pulmonaria (L.) Hoffm.: Holt, 1908, Hedrick &  
     Lowe, 1936, MIN HERB  
Lobaria quercizans Michx.: Hedrick & Lowe, 1936, Jordan,  
     1973, MIN HERB  
Lobaria scrobiculata (Scop.) DC.: Harris, 1978, MIN HERB
- I   Lopadium pezizoideum (Ach.) K rb.: Lowe, 1935, Hedrick &  
     Lowe, 1936, MIN HERB

- Menegazzia terebrata (Hoffm.) Mass.: Hedrick & Lowe, 1936, MIN HERB
- Micarea melaena (Nyl.) Hedl.: Hedrick & Lowe, 1936, MIN HERB
- Micarea violacea Hedl.: MIN HERB
- Micarea viridescens (Schr.) Brodo: Hedrick & Lowe, 1936
- Microcalicium disseminatum (Ach.) Vain.: Tibell, 1975, Harris, 1978
- Microthelia micula K rb.: Harris, 1973
- I Mycoblastus affinis (Schaer.) Schauer.: Hedrick & Lowe, 1936
- I Mycoblastus sanguinarius (L.) Norm.: Hedrick & Lowe, 1936, MIN HERB
- Mycocalicium parietinum (Ach. ex Schaer.) Hawksw.: Hedrick & Lowe, 1936, Tibell, 1975, MIN HERB
- Mycoglaena myricae (Nyl.) Harris: Harris, 1973
- Nephroma bellum (Spreng.) Tuck.: Hedrick & Lowe, 1936, Wetmore, 1960, MIN HERB
- Nephroma helveticum Ach.: Hedrick & Lowe, 1936, Wetmore, 1960, MIN HERB
- Nephroma parile (Ach.) Ach.: Hedrick & Lowe, 1936, Wetmore, 1960, MIN HERB
- Nephroma resupinatum (L.) Ach.: Hedrick & Lowe, 1936, Wetmore, 1960, MIN HERB
- Ochrolechia arborea (Ljubitz.) Almb.: MIN HERB
- Opegrapha lichenoides Pers.: MIN HERB
- Opegrapha niveoatra (Borr.) Laund.: Harris, 1978
- S Opegrapha pulicaris (Hoffm.) Schrad.: Hedrick & Lowe, 1936
- Opegrapha prosodea Ach.: Harris, 1978
- Opegrapha viridis (Pers. ex Ach.) Nyl.: Hedrick & Lowe, 1936
- Pachyospora mutabilis (Ach.) Mass.: Harris, 1978, MIN HERB
- Pannaria ahlneri Jorg.: Harris, 1978
- Pannaria conoplea (Ach.) Bory: MIN HERB
- Pannaria leucophaea (Vahl.) J rg.: Harris, 1978, MIN HERB
- Pannaria leucosticta (Tuck.) Tuck. ex Nyl.: MIN HERB
- Pannaria microphylla (Sw.) Mass.: Hedrick & Lowe, 1936
- Pannaria pezizoides (G. Web.) Trev.: Hedrick & Lowe, 1936, Harris, 1978, MIN HERB
- Pannaria pityrea (DC.) Degel.: MIN HERB
- Pannaria praetermissa Nyl. in Chyd. & Furuhj.: Hedrick & Lowe, 1936, Harris, 1978, MIN HERB
- Pannaria rubiginosa (Thunb. ex Ach.) Del.: Hedrick & Lowe, 1936
- Parmelia arnoldii Du Rietz: Hale, 1965, MIN HERB
- Parmelia borreri (Sm.) Turn.: Hedrick & Lowe, 1936
- I Parmelia caperata (L.) Ach.: Holt, 1908, Hedrick & Lowe, 1936, Berry, 1941, MIN HERB
- Parmelia cetrata Ach.: Hedrick & Lowe, 1936
- Parmelia conspersa (Ach.) Ach.: Holt, 1908, Hedrick & Lowe, 1936, Berry, 1941, MIN HERB
- Parmelia crinita Ach.: MIN HERB
- Parmelia cumberlandia (Gyeln.) Hale: MIN HERB

- Parmelia disjuncta Erichs.: MIN HERB
- I Parmelia exasperata De Not.: Hedrick & Lowe, 1936, MIN HERB
- Parmelia fraudans Nyl.: MIN HERB
- Parmelia hypopsila Müll. Arg.: Harris, 1978, MIN HERB
- Parmelia infumata Nyl.: Esslinger, 1977, MIN HERB
- Parmelia lineola Berry: MIN HERB
- Parmelia mexicana Gyeln.: MIN HERB
- I Parmelia olivacea (L.) Ach.: Hedrick & Lowe, 1936, Berry, 1941, Ahti, 1966, MIN HERB
- Parmelia omphalodes (L.) Ach.: Harris, 1978, MIN HERB
- Parmelia panniformis (Nyl.) Vain.: Hedrick & Lowe, 1936, MIN HERB
- S Parmelia perlata (Huds.) Ach.: Holt, 1908, Hedrick & Lowe, 1936, Berry, 1941, MIN HERB
- Parmelia quercina (Willd.) Vain.: Hedrick & Lowe, 1936
- I Parmelia revoluta Flörke: Harris, 1978
- I Parmelia rudecta Ach.: Hedrick & Lowe, 1936, MIN HERB
- I Parmelia saxatilis (L.) Ach.: Hedrick & Lowe, 1936, Berry, 1941, MIN HERB
- I Parmelia septentrionalis (Lynge) Ahti: Ahti, 1966, MIN HERB
- Parmelia soledica Nyl.: MIN HERB
- Parmelia squarrosa Hale: MIN HERB
- Parmelia stictica Hale: MIN HERB
- I-T Parmelia subargentifera Nyl.: Hedrick & Lowe, 1936
- S Parmelia subaurifera Nyl.: MIN HERB
- I Parmelia subrudecta Nyl.: MIN HERB
- Parmelia substygia Räs.: MIN HERB
- I-T Parmelia sulcata Tayl.: Holt, 1908, Hedrick & Lowe, 1936, Berry, 1941, MIN HERB
- Parmelia taractica Kremp.: MIN HERB
- Parmelia tasmanica Hook. f. & Tayl.: Harris, 1978
- I Parmelia trabeculata Ahti: Ahti, 1966, Esslinger, 1977, Harris, 1978, MIN HERB
- Parmeliella triptophylla (Ach.) Müll. Arg.: MIN HERB
- I Parmeliopsis aleurites (Ach.) Nyl.: Lowe, 1935, Hedrick & Lowe, 1936, MIN HERB
- I Parmeliopsis ambigua (Wulf.) Nyl.: Hedrick & Lowe, 1936, MIN HERB
- I Parmeliopsis hyperopta (Ach.) Arn.: Hedrick & Lowe, 1936, MIN HERB
- Peltigera apthosa (L.) Willd.: Holt, 1908, Hedrick & Lowe, 1936, Thomson, 1950, Harris, 1978, MIN HERB
- Peltigera canina (L.) Willd.: Thomson, 1950, MIN HERB
- Peltigera canina var. praetextata (Flörke in Somm.) Hue: Hedrick & Lowe, 1936
- Peltigera canina var. rufescens (Weis) Mudd: Hedrick & Lowe, 1936, Thomson, 1950
- Peltigera canina var. spuria (Ach.) Schaer.: Hedrick & Lowe, 1936, Thomson, 1950
- Peltigera collina (Ach.) Ach.: Hedrick & Lowe, 1936
- Peltigera elisabethae Gyeln.: MIN HERB
- Peltigera evansiana Gyeln.: Thomson, 1950, MIN HERB
- I Peltigera horizontalis (Huds.) Baumg.: Hedrick & Lowe,

- 1936, Thomson, 1950, MIN HERB  
Peltigera lepidophora (Nyl. ex Vain.) Bitter: MIN HERB  
Peltigera leucophlebia (Nyl.) Gyeln.: MIN HERB  
Peltigera malacea (Ach.) Funck: Hedrick & Lowe, 1936,  
 Thomson, 1950, MIN HERB  
Peltigera polydactyla (Neck.) Hoffm.: Hedrick & Lowe,  
 1936, Thomson, 1950, MIN HERB  
Peltigera venosa (L.) Baumg.: Hedrick & Lowe, 1936,  
 Thomson, 1950, Harris, 1978, MIN HERB  
 I Pertusaria alpina Hepp ex Ahles.: Dibben, 1980  
Pertusaria amara (Ach.) Nyl.: Dibben, 1980, MIN HERB  
Pertusaria consocians Dibb.: Dibben, 1980, MIN HERB  
Pertusaria leioplaca (Ach.) DC.: Hedrick & Lowe, 1936  
Pertusaria macounii (Lamb) Dibb.: Dibben, 1980  
Pertusaria multipuncta (Turn.) Nyl.: Hedrick & Lowe, 1936  
 I Pertusaria multipunctoides Dibb.: Dibben, 1980  
Pertusaria neoscotica Lamb: Dibben 1980  
Pertusaria ophthalmiza (Nyl.) Nyl.: Dibben, 1980, MIN  
 HERB  
Pertusaria pertusa (L.) Tuck.: Hedrick & Lowe, 1936  
Pertusaria pustulata (Ach.) Duby: Hedrick & Lowe, 1936,  
 Dibben, 1980  
Pertusaria sommerfeltii (Flörke ex Somm.) Fr.: Dibben,  
 1980  
Pertusaria velata (Turn.) Nyl.: Hedrick & Lowe, 1936,  
 Dibben, 1980  
Phaeocalicium compressulum (Nyl. ex Vain.) Schmidt:  
 Tibell, 1975, Harris, 1978, MIN HERB  
Phaeocalicium polyporaum (Nyl.) Tibell: Hedrick & Lowe,  
 1936, MIN HERB  
Phaeophyscia adiastrum (Essl.) Essl.: MIN HERB  
Phaeophyscia chloantha (Ach.) Moberg: MIN HERB  
Phaeophyscia ciliata (Hoffm.) Essl.: Hedrick & Lowe,  
 1936, Thomson, 1963, MIN HERB  
Phaeophyscia decolor (Kashiw.) Essl.: Harris, 1978  
Phaeophyscia endococcinea (Körb.) Essl.: MIN HERB  
Phaeophyscia hispidula (Ach.) Essl.: Hedrick & Lowe,  
 1936, Thomson, 1963, MIN HERB  
 I Phaeophyscia orbicularis (Neck.) Moberg: Thomson, 1963,  
 MIN HERB  
Phaeophyscia pusilloides (Zahlbr.) Essl.: MIN HERB  
Phaeophyscia sciastra (Ach.) Moberg: Esslinger, 1978, MIN  
 HERB  
 I Phylctis argena (Ach.) Flot.: MIN HERB  
 I Physcia adscendens (Th. Fr.) Oliv.: Thomson, 1963, MIN  
 HERB  
 I Physcia aipolia (Ehrh.) Hampe: Hedrick & Lowe, 1936,  
 Thomson, 1963, MIN HERB  
Physcia caesia (Hoffm.) Hampe: Hedrick & Lowe, 1936, MIN  
 HERB  
 T Physcia dubia (Hoffm.) Lett.: MIN HERB  
Physcia phaea (Tuck.) Thoms.: MIN HERB  
 I Physcia stellaris (L.) Nyl.: Hedrick & Lowe, 1936,  
 Thomson, 1963, MIN HERB  
Physcia subtilis Degel.: MIN HERB



- I Physcia tenella (Scop.) DC. in Lam & DC.: Hedrick & Lowe, 1936, Harris, 1978
- I Physconia deterosa (Nyl.) Poelt: Hedrick & Lowe, 1936, Thomson, 1963, MIN HERB
- Physconia muscigena (Ach.) Poelt: Thomson, 1963, Harris, 1978, MIN HERB
- I Physconia pulverulenta (Schreb.) Poelt: Holt, 1908, Hedrick & Lowe, 1936
- Placynthium aspratilis (Ach.) Henss.: MIN HERB
- Placynthium nigrum (Huds.) S. Gray: MIN HERB
- I Platismatia glauca (L.) W. Culb. & C. Culb.: Culberson & Culberson, 1968, Harris, 1978, MIN HERB
- Platismatia tuckermanii (Oakes) W. Culb. & C. Culb.: Holt, 1908, Hedrick & Lowe, 1936, Culberson & Culberson, 1968, MIN HERB
- Polyblastiopsis fallaciosa (Stizenb.) Zahlbr.: MIN HERB
- Protoblastenia rupestris (Scop.) J. Stein.: Hedrick & Lowe, 1936
- Pseudevernia consocians (Vain.) Hale & W. Culb.: Hedrick & Lowe, 1936, MIN HERB
- Pyrenula leucophaea (Wallr.) K rb.: Hedrick & Lowe, 1936
- S Ramalina americana Hale: MIN HERB
- S Ramalina calicaris (L.) Fr.: Hedrick & Lowe, 1936
- S Ramalina calicaris var. canaliculata Fr.: Hedrick & Lowe, 1936
- I Ramalina dilacerata (Hoffm.) Hoffm.: MIN HERB
- S Ramalina farinacea (L.) Ach.: Holt, 1908, Hedrick & Lowe, 1936, Bowler & Rundel, 1978, Harris, 1978
- Ramalina fraxinea (L.) Ach.: Hedrick & Lowe, 1936
- Ramalina geniculata Hook. f. & Tayl.: Hedrick & Lowe, 1936
- Ramalina hypoprotocetrarica W. Culb.: Harris, 1978
- Ramalina intermedia (Del. ex Nyl.) Nyl.: MIN HERB
- S Ramalina obtusata (Arn.) Bitt.: MIN HERB
- S Ramalina pollinaria (Westr.) Ach.: Hedrick & Lowe, 1936, MIN HERB
- [Ramalina pusilla Le Prev. in Duby: Hedrick & Lowe, 1936 misident.]
- Ramalina roesleri (Hochst.) Nyl.: Harris, 1978, MIN HERB
- Ramalina sinensis Jatta: Harris, 1978, MIN HERB
- Ramalina thrausta (Ach.) Nyl.: Bowler, 1977, MIN HERB
- Rhizocarpon badioatrum (Fl rke ex Spreng.) Th. Fr.: Hedrick & Lowe, 1936
- Rhizocarpon cinereonigrum Vain.: MIN HERB
- Rhizocarpon disporum (Naeg. ex Hepp) M ll. Arg.: Hedrick & Lowe, 1936, MIN HERB
- Rhizocarpon eupetraeum (Nyl.) Arn.: Hedrick & Lowe, 1936
- Rhizocarpon geographicum (L.) DC.: Holt, 1908, Hedrick & Lowe, 1936, Harris, 1978, MIN HERB
- Rhizocarpon grande (Fl rke ex Flot.) Arn.: Hedrick & Lowe, 1936, MIN HERB
- Rhizocarpon lecanorinum (K rb.) And.: MIN HERB
- [Rhizocarpon massalongii f. colludens (Nyl.) Zahlbr.: Hedrick & Lowe, 1936 misident.]
- Rhizocarpon obscuratum (Ach.) Mass.: MIN HERB

- Rhizocarpon riparium Rhs.: MIN HERB  
Rhizocarpon subgeminatum Eitn.: MIN HERB  
Rhizoplaca chrysoleuca (Sm.) Zopf: Harris, 1978, MIN HERB  
Rhizoplaca melanophthalma (Ram.) Leuck. & Poelt: MIN HERB  
Rhizoplaca peltata (Ram.) Leuck. & Poelt: Hedrick & Lowe, 1936  
~~Rinodina archaea (Ach.) Arn.: MIN HERB = Rinodina Trevisani~~  
Rinodina colobina (Ach.) Th. Fr.: MIN HERB  
Rinodina confragosa (Ach.) Krb.: Hedrick & Lowe, 1936  
I Rinodina exigua (Ach.) S. Gray: Hedrick & Lowe, 1936  
[Rinodina sophodes (Ach.) Mass.: Hedrick & Lowe, 1936  
misident.]  
Rinodina tephraspis (Tuck.) Herre: MIN HERB  
Rinodina turfacea (Wahlenb.) Krb.: MIN HERB  
Solorina saccata (L.) Ach.: Hedrick & Lowe, 1936, MIN HERB  
Sphinctrina turbinata (Pers. ex Fr.) De Not.: Hedrick & Lowe, 1936, Tibell, 1975  
Spilonema revertens Nyl.: MIN HERB  
Staurothele clopima (Walenb. ex Ach.) Th. Fr.: Hedrick & Lowe, 1936, MIN HERB  
Staurothele fissa (Tayl.) Zw.: Hedrick & Lowe, 1936, MIN HERB  
I Stenocybe major Nyl.: Lowe, 1935, Hedrick & Lowe, 1936, Tibell, 1975, MIN HERB  
Stenocybe pullatula (Ach. ex Somm.) B. Stein: Tibell, 1975, Harris, 1978  
Stereocaulon dactylophyllum Flörke: Holt, 1908, Hedrick & Lowe, 1936, Harris, 1978, MIN HERB  
Stereocaulon depreaaultii Del.: MIN HERB  
Stereocaulon paschale (L.) Hoffm.: Holt, 1908, Hedrick & Lowe, 1936, Harris, 1978, MIN HERB  
Stereocaulon saxatile Magn.: MIN HERB  
Stereocaulon tomentosum Fr.: Hedrick & Lowe, 1936, MIN HERB  
Sticta fuliginosa (Dicks.) Ach.: Hedrick & Lowe, 1936  
Thelocarpon epibolum Nyl.: Harris, 1978, MIN HERB  
Thelopsis melathelia Nyl.: Harris, 1978  
Thermutis velutina (Ach.) Flot.: MIN HERB  
Thyrea nigrifella Lett.: MIN HERB  
Toninia caeruleonigricans (Leightf.) Th. Fr.: Hedrick & Lowe, 1936, Harris, 1978, MIN HERB  
Toninia squalida (Schleich. ex Ach.) Mass.: Hedrick & Lowe, 1936, MIN HERB  
Trapelia involuta (Tayl. in Mack.) Hert.: MIN HERB  
Umbilicaria deusta (L.) Baumg.: Hedrick & Lowe, 1936, Llano, 1950, MIN HERB  
Umbilicaria hyperborea (Ach.) Hoffm.: Hedrick & Lowe, 1936, Harris, 1978, MIN HERB  
Umbilicaria mammulata (Ach.) Tuck.: Llano, 1950, MIN HERB  
Umbilicaria muehlenbergii (Ach.) Tuck.: Hedrick & Lowe, 1936, Llano, 1950, Harris, 1978  
Umbilicaria polyphylla (L.) Baumg.: Harris, 1978  
Umbilicaria torrefacta (Lightf.) Schrad.: Harris, 1978, MIN HERB

- Umbilicaria vellea (L.) Ach.: Hedrick & Lowe, 1936,  
Llano, 1950, MIN HERB
- Usnea cavernosa Tuck.: Hedrick & Lowe, 1936, MIN HERB
- S Usnea ceratina Ach.: Holt, 1908, Hedrick & Lowe, 1936
- S Usnea filipendula Stirt.: Hedrick & Lowe, 1936
- S [Usnea florida (L.) Wigg.: Hedrick & Lowe, 1936 misident.]  
Usnea fulvovirens (Räs.) Räs.: MIN HERB
- S-I Usnea hirta (L.) Wigg.: Hedrick & Lowe, 1936, MIN HERB  
Usnea longissima Ach.: Holt, 1908, Hedrick & Lowe, 1936,  
Harris, 1978, MIN HERB
- [Usnea plicata (L.) Wigg.: Hedrick & Lowe, 1936 misident.]
- S-I Usnea subfloridana Stirt.: MIN HERB  
Verrucaria elaeomelaena (Massal.) Arn.: Harris, 1978  
Verrucaria margacea Wahlenb.: MIN HERB  
Verrucaria muralis Ach.: Hedrick & Lowe, 1936  
Verrucaria nigrescens Pers.: Hedrick & Lowe, 1936  
Verrucaria viridula (Schrader.) Ach.: Hedrick & Lowe, 1936
- I Xanthoria candelaria (L.) Th. Fr.: Hedrick & Lowe, 1936,  
MIN HERB  
Xanthoria elegans (Link) Th. Fr.: Hedrick & Lowe, 1936,  
MIN HERB
- S-I Xanthoria fallax (Hepp) Arn.: MIN HERB
- I Xanthoria polycarpa (Ehrh.) Oliv.: Hedrick & Lowe, 1936,  
MIN HERB  
Xanthoria soorediata (Vain.) Poelt: MIN HERB  
Xylographa abietina (Pers.) Zahlbr.: MIN HERB



# ISRO REFERENCES

- Ahti, T. 1966. *Parmelia olivacea* and the allied non-isidiate and non-sorediate corticolous lichens in the Northern Hemisphere. *Acta Bot. Fenn.* 70:1-68.
- Berry, E. C. 1941. A monograph of the genus *Parmelia* in North America, north of Mexico. *Ann. Missouri Bot. Garden* 28: 31-146.
- Bowler, P. A. & P. W. Rundel. 1978. The *Ramalina farinacea* complex in North America: chemical, ecological and morphological variation. *Bryologist* 81:386-403.
- Brodo, I. M. & D. L. Hawksworth. 1977. *Alectoria* and allied genera in North America. *Opera Botanica* 42:1-164.
- Culberson, W. L. 1962. Some pseudocyphellate *Parmeliae*. *Nova Hedwigia* 4: 563-577.
- Culberson, W. L. 1965. *Cetraria chicitae*, a new and widely distributed lichen species. *Bryologist* 68: 95-99.
- Culberson, W. L. & C. F. Culberson. 1968. The lichen genera *Cetrelia* and *Platismatia* (*Parmeliaceae*). *Contrib. U. S. Nat. Herbarium* 34 (7):449-558.
- Degelius, G. 1974. The lichen genus *Collema* with special reference to the extra-European species. *Symb. Bot. Ups.* 20(2):1-215.
- Dibben, M. J. 1980. The chemosystematics of the lichen genus *Pertusaria* in North America north of Mexico. *Milwaukee Public Museum, Biol.* 5:1-162.
- Esslinger, T. L. 1977. A chemosystematic revision of the brown *Parmeliae*. *Jour. Hattori Bot. Lab.* 42:1-211.
- Esslinger, T. L. 1978. Studies in the lichen family *Physciaceae*. II. The genus *Phaeophyscia* in North America. *Mycotaxon* 7:283-320.
- Fink, B. 1919. Additions to the lichen distribution in North America. *Mycologia* 11 (6): 296-307.
- Hale, M. E. 1965. A monograph of *Parmelia* subgenus *Amphigymnia*. *Contrib. U. S. Nat. Herb.* 36 (5):193-358.
- Harris, R. C. 1973. The corticolous pyrenolichens of the Great Lakes Region. *Michigan Botanist* 12:3-68.
- Harris, R. C. 1975. Lichens of the Mackinac Straits Region. I. The *Cladonia cariosa* group. *Michigan Botanist* 14:44-48.
- Harris, R. C. 1978. Lichens of the straits counties, Michigan. Offset publication by author.
- Harris, R. C. & W. R. Buck. 1978. Lichens of the Mackinac Straits Region. II. *Candelariella* Müll. Arg. *Michigan Botanist* 17:155-161.
- Hedrick, J. 1933. New genera and species of lichens from the herbarium of Bruce Fink I. *Mycologia* 25:303-316.
- Herdick, J. & J. L. Lowe. 1936. Lichens from Isle Royale, Lake Superior. *Bryologist* 39:73-91.
- Holt, W. P. 1908. Notes on the vegetation of Isle Royale, Michigan. *Rept. Mich. Geol. Survey for 1908*:217-148.
- Imshaug, H. A. 1951. The lichen-forming species of the genus *Buellia* occurring in the United States and Canada. PhD. thesis, Univ. of Michigan.
- Imshaug, H. A. & I. M. Brodo. 1966. Biosystematic studies on

- Lecanora pallida and some related lichens in the Americas.  
 Nova Hedwigia 12:1-59.
- Jordan, W. P. 1973. The genus Lobaria in North America north of Mexico. Bryologist 76:225-251.
- Kärnefelt, I. 1979. The brown fruticose species of Cetraria. Opera Botanica 46:1-150.
- Llano, G. A. 1950. A monograph of the lichen family Umbilicariaceae in the western hemisphere. Off. Naval Res., Washington, D. C. (Navexos P-831):1-281.
- Lowe, J. L. 1935. On the lichen flora of northern Michigan. Papers Mich. Acad. Sci., Arts and Letters 21:119-126.
- Rudolph, E. D. 1955. Revisionary studies in the lichen family Blasteniaceae in North America north of Mexico. Ph. D. Thesis, Washington, Univ.
- Sierk, H. A. 1964. The genus Leptogium in North America north of Mexico. Bryologist 67:245-317.
- Thomson, J. W. 1950. The species of Peltigera of North America north of Mexico. Amer. Midl. Nat. 44:1-68.
- Thomson, J. W. 1951. Some lichens from the Keweenaw Peninsula, Michigan. Bryologist 54:17-53.
- Thomson, J. W. 1963. The lichen genus Physcia in North America. Nova Hedwigia, Beih. 7, viii + 172.
- Tibell, L. 1975. The Caliciales of boreal North America. Symb. Bot. Ups. 21(2):1-128.
- Wetmore, C. M. 1960. The lichen genus Nephroma in North and Middle America. Publ. Museum, Michigan State Univ., Biol. Ser. 1:369-452.

JOTR - JOSHUA TREE NATIONAL MONUMENT

Total number of species = 2 : Unkown

Heppia lutosa (Ach.) Nyl.: Wetmore, 1970

Peltula euploca (Ach.) Oz. & Claud.: Wetmore, 1970, MIN

HERB

*Physcia phaea*

*MIN*  
JOTR REFERENCES

Wetmore, C. M. 1970. The lichen family Heppiaceae in North America. Ann. Missouri Bot. Gard. 57:158-209.

# KICA - KINGS CANYON NATIONAL PARK

Total number of species = 32 : Poorly known

- Bryoria abbreviata (Müll. Arg.) Brodo & Hawk.: Smith, 1980
- Cetraria merrillii DR.: Smith, 1980
- Collema nigrescens (Huds.) DC.: Smith, 1980
- Dermatocarpon miniatum (L.) Mann: Smith, 1980
- I Evernia prunastri (L.) Ach.: Smith, 1980
- Hypogymnia enteromorpha (Ach.) Nyl.: Smith, 1980
- Leptogium burnetiae Dodge: Smith, 1980
- Leptogium saturninum (Dicks.) Nyl.: Smith, 1980
- Letharia columbiana (Nutt.) Thoms.: Smith, 1980
- Letharia vulpina (L.) Hue: Smith, 1980
- Parmelia conspersa (Ach.) Ach.: Smith, 1980
- Parmelia cumberlandia (Gyeln.) Hale: Smith, 1980
- Parmelia elegantula (Zahlbr.) Szat.: Smith, 1980
- I Parmelia exasperata De Not.: Smith, 1980
- Parmelia mexicana (Gyeln.) Hale: Smith, 1980
- I Parmelia saxatilis (L.) Ach.: Smith, 1980
- Parmelia subolivacea Nyl.: Smith, 1980
- I-T Parmelia sulcata Tayl.: Smith, 1980
- Peltigera canina (L.) Willd.: Smith, 1980
- I Physcia adscendens (Fr.) Oliv.: Smith, 1980
- I Physcia aipolia (Ehrh.) Hampe: Smith, 1980
- I Physcia stellaris (L.) Nyl.: Smith, 1980
- I Physcia tenella (Scop.) DC.: Smith, 1980
- I Physconia deterosa (Nyl.) Poelt: Smith, 1980
- I Platismatia glauca (L.) W. Culb. & C. Culb.: Smith, 1980
- Polychidium albociliatum (Desm.) Zahlbr.: Smith, 1980
- S Ramalina farinacea (L.) Ach.: Smith, 1980
- Umbilicaria hyperborea (Ach.) Ach.: Smith, 1980
- Umbilicaria phaea Tuck.: Smith, 1980
- Umbilicaria vellea (L.) Ach.: Smith, 1980
- Xanthoria elegans (Link) Th. Fr.: Rudolph, 1955
- I Xanthoria polycarpa (Ehrh.) Oliv.: Smith, 1980

## KICA REFERENCES

- Rudolph, E. D. 1955. Revisionary studies in the lichen family Blasteniaceae in North America north of Mexico. Ph. D. Thesis, Washington, Univ.
- Smith, D. W. 1980. A taxonomic survey of the macrolichens of Sequoia and Kings Canyon National Parks. Masters thesis, San Francisco State University.

LABE - LAVA BEDS NATIONAL MONUMENT

No lichens reported : Unknown

*Rhizoplaca melanophthalma* MIN

LAVO - LASSEN VOLCANIC NATIONAL PARK

Total number of species = 1 : Unkown

Omphalodiscus krascheninnikovii (Sav.) Schol.: Imshaug,  
1957

LAVO REFERENCES

Imshaug, H. A. 1957. Alpine lichens of western United States  
and adjacent Canada. I, The macrolichens. Bryologist  
60:177-272.

MACA - MAMMOTH CAVE NATIONAL PARK

No lichens reported : Unkown

MEVE - MESA VERDE NATIONAL PARK

Total number of species = 45 : Moderately known

- Acarospora strigata (Nyl.) Jatta: MIN HERB  
Acarospora utahensis Magn.: MIN HERB  
Aspicilia alphoplaca (Wahlenb. ex Ach.) Ach.: MIN HERB  
Aspicilia caesiocinerea (Nyl. ex Malbr.) Arn.: MIN HERB  
I Buellia alboatra (Hoffm.) Branth & Rostr.: MIN HERB  
T Buellia punctata (Hoffm.) Mass.: MIN HERB  
Caloplaca arizonica Magn.: MIN HERB  
Caloplaca trachyphylla (Tuck.) Zahlbr.: Rudolph, 1955  
I-T Candelariella vitellina (Ehrh.) Müll. Arg.: MIN HERB  
S-I Cladonia fimbriata (L.) Fr.: MIN HERB  
Cladonia pyxidata (L.) Hoffm.: MIN HERB  
Collema coccophorum Tuck.: MIN HERB  
Collema tuniforme (Ach.) Ach.: MIN HERB  
Dermatocarpon lachneum (Ach.) A. L. Sm.: MIN HERB  
Diploschistes actinostomus (Pers.) Zahlbr.: MIN HERB  
Lecanora cenisia Ach.: MIN HERB  
T Lecanora dispersa (Pers.) Somm.: MIN HERB  
Lecanora frustulosa (Dicks.) Ach.: MIN HERB  
T Lecanora muralis (Schreb.) Rabenh.: MIN HERB  
I Lecanora saligna (Schrad.) Zahlbr.: MIN HERB  
Lecidea crenata (Tayl.) Stizenb.: MIN HERB  
Lecidea globifera Ach.: MIN HERB  
Lecidella glomerulosa (DC.) Choisy: MIN HERB  
I-T Lepraria incana (L.) Ach.: MIN HERB  
Leptogium furfuraceum (Harm.) Sierk: MIN HERB  
Leptogium lichenoides (L.) Zahlbr.: MIN HERB  
Parmelia elegantula (Zahlbr.) Szat.: MIN HERB  
Parmelia mexicana Gyeln.: MIN HERB  
I Parmelia olivacea (L.) Ach.: Herre, 1946  
Parmelia subolivacea Nyl. in. Hasse: Ahti, 1966, MIN HERB  
Peltigera canina var. rufescens (Weiss) Mudd: MIN HERB  
Pertusaria saximontana Wetm.: Anderson & Carmer, 1974  
Physcia caesia (Hoffm.) Hampe: MIN HERB  
I Physcia stellaris (L.) Nyl.: MIN HERB  
I Physconia detersa (Nyl.) Poelt: Thomson, 1963, MIN HERB  
Physconia muscigena (Ach.) Poelt: Thomson, 1963  
Rhizoplaca melanophthalma (Ram.) Leuck. & Poelt: MIN HERB  
Rinodina pyrina (Ach.) Arn.: MIN HERB  
Toninia aromatica (Turn.) Mass.: MIN HERB  
Toninia candida (Web.) Th. Fr.: MIN HERB  
S-I Usnea hirta (L.) Wigg.: MIN HERB  
Verrucaria virens Nyl.: MIN HERB  
Xanthoria elegans (Link) Th. Fr.: Rudolph, 1955  
I Xanthoria polycarpa (Ehrh.) Oliv.: MIN HERB  
Zahlbrucknerella calcarea (Herre) Herre: Henssen, 1977



#### MEVE REFERENCES

- Ahti, T. 1966. *Parmelia olivacea* and the allied non-isidiate and non-sorediate corticolous lichens in the Northern Hemisphere. *Acta Bot. Fenn.* 70:1-68.
- Anderson, R. & M.-B. Carmer. 1974. Additions to the lichen flora of Colorado. *Bryologist* 77:216-223.
- Henssen, A. 1977. The genus Zahlbrucknerella. *Lichenologist* 9:17-46.
- Herre, A. W. 1946. The *Parmelias* of California. *Contrib. Dudley Herb.* 3:313-350.
- Rudolph, E. D. 1955. Revisionary studies in the lichen family *Blasteniaceae* in North America north of Mexico. Ph. D. Thesis, Washington, Univ.
- Thomson, J. W. 1963. The lichen genus *Physcia* in North America. *Nova Hedwigia, Beih.* 7, viii + 172.

MORA - MOUNT RAINIER NATIONAL PARK

Total number of species = 132 : Moderately known

6 species with type localities in the park

- Agyrophora rigida (DR.) Llano: Imshaug, 1957  
Alectoria lata (Tayl.) Linds.: Brodo & Hawksworth, 1977  
Alectoria nigricans (Ach.) Nyl.: Imshaug, 1957  
I Alectoria sarmentosa (Ach.) Ach.: Howard, 1950, Imshaug, 1957  
I Alectoria sarmentosa subsp. vexillifera (Nyl.) Brodo & Hawksw.: Howard, 1937, Brodo & Hawksworth, 1977  
Aspicilia alpina (Somm.) Arn.: Howard, 1937, Howard, 1950  
Aspicilia cinerea (L.) Krb.: Howard, 1950  
Bacidia sabuletorum (Schreb.) Lett.: Howard, 1950  
Bryoria fremontii (Tuck.) Brodo & Hawksw.: Howard, 1937, Howard, 1950  
I Bryoria fuscescens (Gyeln.) Brodo & Hawksw.: Brodo & Hawksworth, 1977  
S [Bryoria "jubata" (L.) Ach.: Howard, 1937, Howard, 1950 ident. uncertain]  
Bryoria nadvornikiana (Gyeln.) Brodo & Hawksw.: Imshaug, 1950a  
Bryoria oregana (Tuck.) Brodo & Hawksw.: Howard, 1937, Howard, 1950, MIN HERB  
Buellia moriopsis (Mass.) Th. Fr.: Imshaug, 1951  
Buellia wahlenbergii (Ach.) Sheard: Imshaug, 1951  
Cetraria commixta (Nyl.) Th. Fr.: Howard, 1950, Imshaug, 1957  
Cetraria ericetorum Opiz.: Imshaug, 1957  
Cetraria hepatizon (Ach.) Vain.: Imshaug, 1957  
Cetraria herrei Imsh.: Howard, 1950  
Cetraria islandica (L.) Ach. subsp. islandica: Howard, 1937, Imshaug, 1957  
Cetraria platyphylla Tuck.: Howard, 1937, Howard, 1950  
I Cetraria sepincola (Ehrh.) Ach.: MIN HERB  
\* Cetraria subalpina Imsh.: Imshaug, 1950a, Thomson, 1969  
Cladonia amaurocraea (Flörke) Schaer.: Howard, 1937  
Cladonia bellidiflora (Ach.) Schaer.: Howard, 1950, MIN HERB  
Cladonia cariosa (Ach.) Spreng.: Imshaug, 1957  
Cladonia carneola (Fr.) Fr.: MIN HERB  
Cladonia chlorophaea (Flörke ex Somm.) Spreng.: Imshaug, 1957  
Cladonia coccifera (L.) Willd.: Imshaug, 1957  
I [Cladonia cristatella Tuck.: Howard, 1937 misident.]  
Cladonia deformis (L.) Hoffm.: Howard, 1950  
Cladonia ecmocyna (Ach.) Nyl.: Imshaug, 1957, MIN HERB  
S-I Cladonia fimbriata (L.) Fr.: Howard, 1950  
[Cladonia foliacea (Huds.) Schaer.: Howard, 1937, Howard, 1950 misident.]  
Cladonia gracilis (L.) Willd.: Howard, 1950, Imshaug, 1957

- Cladonia pyxidata (L.) Hoffm.: Howard, 1937, Howard, 1950, Imshaug, 1957
- Cladonia rangiferina (L.) Wigg.: MIN HERB
- Cladonia squamosa (Scop.) Hoffm.: MIN HERB
- Cladonia subcervicornis (Vain.) Kernst.: MIN HERB
- Cladonia subsquamosa (Nyl.) Vain.: MIN HERB
- Cornicularia aculeata (Schreb.) Ach.: Imshaug, 1957
- Cornicularia normoerica (Gunn.) Du Rietz: Imshaug, 1957
- Dactylina arctica (Hook.) Nyl.: Imshaug, 1957
- [Dermatocarpon muehlenbergii (Ach.) Müll. Arg.: Howard, 1950, misident.]
- Dermatocarpon reticulatum Magn.: MIN HERB
- Hydrothyria venosa Russ.: Howard, 1937, Howard, 1950
- Hymenelia lacustris (With.) Poelt & Vezda: Howard, 1950
- Hypogymnia austerodes (Nyl.) Räs.: Imshaug, 1957
- Hypogymnia enteromorpha (Ach.) Nyl.: Howard, 1950
- Hypogymnia intestiniformis (Vill.) Räs.: Imshaug, 1957
- Hypogymnia vittata (Ach.) Gas.: Howard, 1937
- \* Ionaspis lavata Magn.: Magnusson, 1932, Thomson, 1969
- Lecanora melaena (Hedl.) Fink: Eyerdam, 1960
- Lecanora polytropa (Ehrh.) Rabenh.: Howard, 1950
- [Lecidea contigua (Hoffm.) Fr.: Howard, 1937, Howard, 1950 ident. uncertain]
- Lecidea fuscoatra (L.) Ach.: Howard, 1937, Howard, 1950
- Lecidea granulosa (Ehrh.) Ach.: Howard, 1937, Howard, 1950
- Lecidea lapicida (Ach.) Ach.: Howard, 1937, Howard, 1950
- Leprocaulon albicans (Th. Fr.) Nyl.: Howard, 1950
- Leptogium minutissimum (Flörke) Fr.: Sierk, 1964
- Leptogium palmatum (Huds.) Mont.: Sierk, 1964, MIN HERB
- Leptogium platynum (Tuck.) Herre: Sierk, 1964
- Letharia vulpina (L.) Hue: Howard, 1937, Howard, 1950, Imshaug, 1957, MIN HERB
- Lobaria linita (Ach.) Rabenh.: Imshaug, 1957
- Lobaria oregana (Tuck.) Müll. Arg.: Howard, 1950
- Lopadium pezizoideum (Ach.) Kärst.: MIN HERB
- I Mycoblastus affinis (Schaer.) Schaer.: Howard, 1937, Howard, 1950
- Nephroma bellum (Spreng.) Tuck.: Wetmore, 1960
- Nephroma helveticum Ach.: Howard, 1950
- I Nephroma laevigatum Ach.: Wetmore, 1960
- Nephroma resupinatum (L.) Ach.: Wetmore, 1960
- \* Neuropogon lambii Imsh.: Imshaug, 1954, Imshaug, 1957
- Ochrolechia pallescens (L.) Mass.: MIN HERB
- Ochrolechia tartarea (L.) Mass.: Howard, 1937, Howard, 1950
- Omphalodiscus decussata (Vill.) Schol.: Howard, 1950
- Omphalodiscus krascheninnikovii (Sav.) Schol.: Imshaug, 1957
- Omphalodiscus virginis (Schaer.) Schol.: Llano, 1950, Imshaug, 1957
- I Opegrapha atra Pers.: Howard, 1950
- Opegrapha lichenoides Pers.: Howard, 1950
- Pannaria pezizoides (G. Web.) Trev.: Howard, 1937, Howard, 1950

- Pannaria rubiginosa (Thunb. ex Ach.) Del.: Howard, 1950
- Parmelia alpicola Th. Fr.: MIN HERB
- Parmelia multispora Schneid.: Ahti, 1966, MIN HERB
- Parmelia omphalodes (L.) Ach.: Imshaug, 1957
- I Parmelia saxatilis (L.) Ach.: Imshaug, 1957
- Parmelia stygia (L.) Ach.: Howard, 1937, Howard, 1950
- Parmelia subelegantula Essl.: Esslinger, 1977
- I Parmeliopsis ambigua (Wulf.) Nyl.: Howard, 1937
- I Parmeliopsis hyperopta (Ach.) Arn.: Howard, 1937, Howard, 1950
- Peltigera apthosa (L.) Willd.: Thomson, 1950, Imshaug, 1957
- Peltigera canina (L.) Willd.: Howard, 1937, Thomson, 1950
- Peltigera canina var. praetextata (Flörke in Somm.) Hue: Howard, 1950
- Peltigera canina var. rufescens (Weis) Mudd: Howard, 1937, Howard, 1950, Imshaug, 1957
- Peltigera canina var. spuria (Ach.) Schaer.: Howard, 1950, Thomson, 1950, Imshaug, 1957
- Peltigera collina (Ach.) Ach.: Howard, 1950
- Peltigera lepidophora (Nyl.) Vain.: Imshaug, 1957
- Peltigera membranacea (Ach.) Nyl.: Howard, 1950, Thomson, 1950
- Peltigera venosa (L.) Baumg.: Thomson, 1950, Imshaug, 1957
- Physconia muscigena (Ach.) Poelt: Imshaug, 1957
- I Physconia pulverulenta (Schreb.) Poelt: Thomson, 1963
- Placopsis gelida (L.) Linds.: MIN HERB
- I Platismatia glauca (L.) W. Culb. & C. Culb.: Culberson & Culberson, 1968
- Platismatia herrei (Imsh.) W. Culb. & C. Culb.: Culberson & Culberson, 1968
- Platismatia norvegica (Lyng.) W. Culb. & C. Culb.: Culberson & Culberson, 1968
- Platismatia stenophylla (Tuck.) W. Culb. & C. Culb.: Culberson & Culberson, 1968
- Platismatia tuckermanii (Oakes) W. Culb. & C. Culb.: MIN HERB
- Pseudephebe minuscula (Nyl. ex Arn.) Brodo & Hawksw.: Imshaug, 1957
- Pseudephebe pubescens (L.) Choisy: Magnusson, 1932, Howard, 1937, Howard, 1950, Imshaug, 1957
- \* Pseudocyphellaria rainierensis Imsh.: Imshaug, 1950a, Thomson, 1969, MIN HERB
- Psoroma hypnorum (Vahl) S. Gray: Howard, 1950
- Rhizocarpon geographicum (L.) DC.: Howard, 1950
- Solorina crocea (L.) Ach.: Howard, 1950, Imshaug, 1957
- Sphaerophorus globosus (Huds.) Vain.: Howard, 1950, MIN HERB
- \* Staurothele glacialis Herre: Thomson, 1969
- Stereocaulon alpinum Laur.: Riddle, 1910, Howard, 1937, Imshaug, 1957
- Stereocaulon glareosum (Sab.) Magn: Imshaug, 1957
- \* Stereocaulon tomentosum var. simplex Riddle: Riddle, 1910, MIN HERB

Thamnolia vermicularis (Sw.) Ach. ex Schaer.: Howard,  
 1937, Howard, 1950, Imshaug, 1957, MIN HERB  
Tholurna dissimilis (Norm.) Norm.: Otto, 1970, Otto,  
 1972, Pike, 1972  
Umbilicaria angulata Tuck.: Imshaug, 1957  
Umbilicaria cylindrica (L.) Del.: Llano, 1950, Imshaug,  
 1957  
Umbilicaria deusta (L.) Baumg.: Howard, 1937, Howard,  
 1950, Llano, 1950  
Umbilicaria havaasii Llano: Imshaug, 1957  
Umbilicaria hyperborea (Ach.) Hoffm.: Howard, 1937,  
 Howard, 1950, Llano, 1950, Imshaug, 1957  
Umbilicaria lambii Imsh.: Imshaug, 1957  
Umbilicaria nylanderiana Zahlbr.: Llano, 1950  
Umbilicaria muehlenbergii (Ach.) Tuck.: Howard, 1937  
Umbilicaria phaea Tuck.: Howard, 1937  
Umbilicaria polyphylla (L.) Baumg.: Llano, 1950, MIN HERB  
Umbilicaria proboscidea (L.) Schrad.: Imshaug, 1957  
Umbilicaria torrefacta (Lightf.) Schrad.: Imshaug, 1957  
Umbilicaria vellea (L.) Ach.: Imshaug, 1957  
Xanthoria elegans (Link) Th. Fr.: Howard, 1950

# MORA REFERENCES

- Ahti, T. 1966. *Parmelia olivacea* and the allied non-isidiate and non-sorediate corticolous lichens in the Northern Hemisphere. *Acta Bot. Fenn.* 70:1-68.
- Brodo, I. M. & D. L. Hawksworth. 1977. *Alectoria* and allied genera in North America. *Opera Botanica* 42:1-164.
- Culberson, W. L. & C. F. Culberson. 1968. The lichen genera *Cetrelia* and *Platismatia* (Parmeliaceae). *Contrib. U. S. Nat. Herbarium* 34 (7):449-558.
- Esslinger, T. L. 1977. A chemosystematic revision of the brown *Parmeliae*. *Jour. Hattori Bot. Lab.* 42:1-211.
- Eyderdam, W. J. 1960. Lichens new to the state of Washington. *Bryologist* 63:107-110.
- Howard, G. E. 1937. Preliminary report on the lichens of the state of Washington. *Bryologist* 40 (6): 91-112.
- Howard, G. E. 1950. Lichens of the state of Washington. Univ. of Wash. Press. 191pp.
- Imshaug, H. A. 1950a. New and noteworthy lichens from Mt. Rainier National Park. *Mycologia* 42:743-752.
- Imshaug, H. A. 1951. The lichen-forming species of the genus *Buellia* occurring in the United States and Canada. PhD. thesis, Univ. of Michigan.
- Imshaug, H. A. 1954. A new species of *Neuropogon* from the United States. *Rhodora* 56:153-156.
- Imshaug, H. A. 1957. Alpine lichens of western United States and adjacent Canada. I, The macrolichens. *Bryologist* 60:177-272.
- Llano, G. A. 1950. A monograph of the lichen family Umbilicariaceae in the western hemisphere. Off. Naval Res., Washington, D. C. (Navexos P-831):1-281.
- Magnusson, A. H. 1932. Lichens from western North America, mainly Washington and Alaska. *Ann. Crypt. Exot.* 5(1):16-38.
- Otto, G. F. 1970. New localities for *Tholurna dissimilis* in the Pacific northwest. *Bryologist* 73:635-636.
- Otto, G. F. 1972. New localities for *Tholurna dissimilis* in western North America. *Bryologist* 75:88-90.
- Pike, L. H. 1972. *Tholurna dissimilis* in Oregon. *Bryologist* 75:578-580.
- Porter, S. P. 1981. Lichenometric studies in the Cascade range of Washington: Establishment of *Rhizocarpon geographicum* growth curves at Mt. Rainier. *Arctic and Alpine Research* 13:11-23. NOT SEEN.
- Riddle, L. W. 1910. The North American species of *Stereocaulon*. *Bot. Gaz.* 50:285-304.
- Sierk, H. A. 1964. The genus *Leptogium* in North America north of Mexico. *Bryologist* 67:245-317.
- Thomson, J. W. 1950. The species of *Peltigera* of North America north of Mexico. *Amer. Midl. Nat.* 44:1-68.
- Thomson, J. W. 1963. The lichen genus *Physcia* in North America. *Nova Hedwigia, Beih.* 7, viii + 172.
- Thomson, J. W. 1969. A catalogue of the lichens of the state of Washington. Dept. of Botany, Univ. of Wisconsin. 1-59.

Wetmore, C. M. 1960. The lichen genus Nephroma in North and Middle America. Publ. Museum, Michigan State Univ., Biol. Ser. 1:369-452.

NOCA - NORTH CASCADES NATIONAL PARK

No lichens reported : Unknown



OLYM - OLYMPIC NATIONAL PARK

Total number of species = 172 : Moderately known

1 species with type locality in the park

- Agyrophora rigida (DR.) Llano: Imshaug, 1957  
Alectoria nigricans (Ach.) Nyl.: Howard, 1950, Imshaug, 1957, Brodo & Hawksworth, 1977  
I Alectoria sarmentosa (Ach.) Ach.: Hedrick, 1941, Howard, 1950, Imshaug, 1957, Hoffman & Kazmierski, 1969, Brodo & Hawksworth, 1977  
Alectoria vancouverensis (Gyeln.) Gyeln ex Brodo & Hawksw.: Brodo & Hawksworth, 1977  
Anzia colpodes (Ach.) Stizenb.: Hedrick, 1941  
Arthrorhaphis citrinella (Ach.) Poelt.: Hedrick, 1941  
Aspicilia alpina (Somm.) Arn.: Howard, 1950, Hedrick, 1941  
Aspicilia cinerea (L.) Krb.: Howard, 1950, Hedrick, 1941  
Aspicilia cinereorufescens (Ach.) Mass.: Anderson & Carmer, 1974  
Aspicilia gibbosa (Ach.) Krb.: Hedrick, 1941, Howard, 1950  
Aspicilia laevata (Ach.) Arn.: Hedrick, 1941, Howard, 1950  
Biatorella resinae (Fr.) Th. Fr.: Hedrick, 1941  
Bryoria chalybeiformis (L.) Brodo & Hawksw.: Brodo & Hawksworth, 1977  
Bryoria fremontii (Tuck.) Brodo & Hawksw.: Hoffman & Kazmierski, 1969  
Bryoria friabilis Brodo & Hawksw.: Brodo & Hawksworth, 1977  
\* Bryoria glabra (Mot.) Brodo & Hawksw.: Brodo & Hawksworth, 1977  
S Bryoria implexa (Hoffm.) Brodo & Hawksw.: Hedrick, 1941  
S Bryoria trichodes subsp. americanum (Mot.) Brodo & Hawksw.: Brodo & Hawksworth, 1977  
S Bryoria trichodes (Michx.) Brodo & Hawksw. subsp. trichodes: Brodo & Hawksworth, 1977  
Buellia oidalea (Nyl.) Tuck.: Hedrick, 1941  
Buellia papillata (Somm.) Tuck.: Hedrick, 1941, Howard, 1950  
Buellia penichrum (Tuck.) Hasse: Hedrick, 1941  
Calicium salicinum Pers.: Hedrick, 1941  
Caloplaca cerina (Ehrh.) Th. Fr.: Hedrick, 1941  
Caloplaca ferruginea (Huds.) Th. Fr.: Hedrick, 1941  
I Candelariella vitellina (Ehrh.) Müll. Arg.: Howard, 1950, Hedrick, 1941  
Catillaria franciscana (Tuck.) Herre: Hedrick, 1941  
S Catillaria griffithii (Sm.) Malme: Hedrick, 1941  
Cetraria cucullata (Bell.) Ach.: Howard, 1950, Imshaug, 1957  
Cetraria ericetorum Opiz.: Imshaug, 1957  
Cetraria hepatizon (Ach.) Vain.: Imshaug, 1957

- Cetraria islandica (L.) Ach.: Hedrick, 1941, Howard, 1950  
Cetraria islandica (L.) Ach. subsp. islandica: Imshaug, 1957
- Cetraria nivalis (L.) Ach.: Howard, 1950, Imshaug, 1957  
Cetraria platyphylla Tuck.: Howard, 1950  
Cetraria subalpina Imsh.: Imshaug, 1957a  
Cetraria herrei Imsh.: Howard, 1950
- Cladonia arbuscula (Wallr.) Rabenh.: Hedrick, 1941, Ahti, 1961
- Cladonia bellidiflora (Ach.) Schaer.: Hedrick, 1941, Howard, 1950
- Cladonia bellidiflora var. coccocephala (Ach.) Vain.: Hedrick, 1941
- Cladonia cariosa (Ach.) Spreng.: Hedrick, 1941, Howard, 1950, Imshaug, 1957
- Cladonia carneola (Fr.) Fr.: Hedrick, 1941, Howard, 1950  
Cladonia carneola var. prolifera Flot.: Hedrick, 1941  
Cladonia cenotea (Ach.) Schaer.: Hedrick, 1941  
Cladonia chlorophaea (Flörke ex Somm.) Spreng.: Hedrick, 1941, Imshaug, 1957
- I Cladonia coccifera (L.) Willd.: Imshaug, 1957  
Cladonia coniocraea (Flörke) Spreng.: Hedrick, 1941  
Cladonia cyanipes (Somm.) Nyl.: Hedrick, 1941  
Cladonia ecmocyna (Ach.) Nyl.: Hedrick, 1941, Imshaug, 1957
- S-I Cladonia fimbriata var. simplex (Weis) Flot.: Hedrick, 1941
- Cladonia furcata (Huds.) Schrad.: Hedrick, 1941, Howard, 1950
- Cladonia gracilis (L.) Willd.: Hedrick, 1941, Howard, 1950
- Cladonia lepidota Nyl.: Hedrick, 1941  
Cladonia macilenta Hoffm.: Hedrick, 1941, Howard, 1950  
Cladonia mitis Sandst.: Imshaug, 1957  
Cladonia pyxidata (L.) Hoffm.: Hedrick, 1941, Howard, 1950, Imshaug, 1957
- Cladonia rangiferina (L.) Wigg.: Hedrick, 1941, Howard, 1950
- Cladonia scabriuscula (Del. ex Duby) Nyl.: Hedrick, 1941  
Cladonia squamosa (Scop.) Hoffm.: Hedrick, 1941, Howard, 1950
- Cladonia subsquamosa (Nyl.) Vain.: Hedrick, 1941, Howard, 1950
- Cladonia subulata (L.) Wigg.: Hedrick, 1941  
Cladonia turgida (Ehrh.) Hoffm.: Eyerdam, 1960  
Cladonia uncialis (L.) Wigg.: Hedrick, 1941, Howard, 1950  
Cladonia verticillata (Hoffm.) Schaer.: Hedrick, 1941, Howard, 1950
- Coniocybe furfuracea (L.) Ach.: Hedrick, 1941  
Cornicularia aculeata (Schreb.) Ach.: Imshaug, 1957  
Cornicularia divergens Ach.: Hedrick, 1941  
Cornicularia normoerica (Gunn.) Du Rietz: Hedrick, 1941, Howard, 1950, Imshaug, 1957
- Cyphelium inquinans (Sm.) Trev.: Hedrick, 1941  
Cyphelium pinicola Tibell: Tibell, 1975

- Cyphelium ventriculosum (Müll. Arg.) Zahlbr.: Hedrick, 1941
- Dermatocarpon weberi (Ach.) Mann: Howard, 1950
- Dermatocarpon reticulatum Magn.: Imshaug, 1957
- Diploschistes scruposus (Schreb.) Norm.: Hedrick, 1941
- I Graphis scripta (L.) Ach.: Hedrick, 1941
- Huilia albocaerulescens (Wulf.) Hertel: Howard, 1950
- Huilia flavocaerulescens (Hornem.) Hertel: Hedrick, 1941
- Huilia macrocarpa (DC.) Hertel: Hedrick, 1941
- Hydrothyria venosa Russ.: Howard, 1950
- Hypogymnia enteromorpha (Ach.) Nyl.: Hedrick, 1941, Howard, 1950, Imshaug, 1957, Hoffman & Kazmierski, 1969
- I Hypogymnia intestiniiformis (Vill.) Rh.s.: Imshaug, 1957
- Hypogymnia physodes (L.) W. Wats.: Hoffman & Kazmierski, 1969
- Hypogymnia vittata (Ach.) Gas.: Howard, 1937, Hedrick, 1941, Hoffman & Kazmierski, 1969
- Icmadophila ericetorum (L.) Zahlbr.: Hedrick, 1941
- Lecanora granatina Somm.: Hedrick, 1941
- Lecanora pacifica Tuck.: Hedrick, 1941
- Lecanora pallida (Schreb.) Rabenh.: Howard, 1950
- Lecanora polytropa (Ehrh.) Rabenh.: Hedrick, 1941, Howard, 1950
- Lecanora rupicola (L.) Zahlbr.: Hedrick, 1941, Howard, 1950
- Lecanora subfusca (L.) Ach.: Hedrick, 1941, Howard, 1950
- Lecanora umbrosa Degel.: Anderson, 1974
- Lecidea atrobrunnea (Ram.) Shaer.: Hedrick, 1941
- Lecidea carnulenta (Tuck.) Fink: Hedrick, 1941, Howard, 1950
- S Lecidea cinnabarina Somm.: Hedrick, 1941, Howard, 1950
- Lecidea elabens Fr.: Hedrick, 1941
- Lecidea enteroleuca Ach.: Hedrick, 1941
- Lecidea fuscescens Somm.: Hedrick, 1941
- Lecidea fuscoatra (L.) Ach.: Hedrick, 1941, Howard, 1950
- Lecidea granulosa (Ehrh.) Ach.: Hedrick, 1941, Howard, 1950
- Lecidea lapicida (Ach.) Ach.: Hedrick, 1941, Howard, 1950
- I Lecidea scalaris (Ach.) Ach.: Hedrick, 1941
- S Lecidea vernalis (L.) Ach.: Hedrick, 1941
- Lepraria membranacea (Dicks.) Vain.: Hoffman & Kazmierski, 1969, Hoffman, 1971
- Letharia vulpina (L.) Hue: Hoffman & Kazmierski, 1969
- Lobaria oregana (Tuck.) Müll. Arg.: Hedrick, 1941, Hoffman & Kazmierski, 1969
- S Lobaria pulmonaria (L.) Hoffm.: Hedrick, 1941, Howard, 1950, Hoffman & Kazmierski, 1969
- I Lopadium pezizoideum (Ach.) KÖrb.: Hedrick, 1941, Howard, 1950
- Massalongia carnosa (Dicks.) KÖrb.: Howard, 1950
- Menegazzia terebrata (Hoffm.) Mass.: Hedrick, 1941
- I Mycoblastus affinis (Schaer.) Schauer: Hedrick, 1941
- I Mycoblastus sanguinarius (L.) Norm.: Hedrick, 1941, Hoffman & Kazmierski, 1969

- Nephroma resupinatum (L.) Ach.: Hedrick, 1941  
Nesolechia vitellinaria (Nyl.) Rehm: Hedrick, 1941  
 S Ochrolechia laevigata (Rhs.) Vers.: Thomson, 1969  
Ochrolechia rosella (Tuck.) Vers.: Hedrick, 1941  
Ochrolechia tartarea (L.) Mass.: Hedrick, 1941, Hoffman & Kazmierski, 1969  
Ochrolechia upsaliensis (L.) Mass.: Hedrick, 1941, Howard, 1950  
Omphalodiscus krascheninnikovii (Sav.) Schol.: Llano, 1950  
Omphalodiscus virginis (Schaer.) Schol.: Howard, 1950, Llano, 1950, Imshaug, 1957  
 I Opegrapha varia Pers.: Howard, 1950  
Pannaria leucosticta (Tuck.) Tuck. ex Nyl.: Hedrick, 1941  
Pannaria pezizoides (G. Web.) Trev.: Howard, 1937, Hedrick, 1941, Howard, 1950  
Pannaria praetermissa Nyl. in Chyd. & Furuhj.: Hedrick, 1941  
Parmelia disjuncta Erichs.: Imshaug, 1957  
 S Parmelia perlata (Huds.) Ach.: Hedrick, 1941  
 I Parmelia saxatilis (L.) Ach.: Hedrick, 1941, Howard, 1950, Imshaug, 1957  
Parmelia soledica Nyl.: Imshaug, 1957  
Parmelia stygia (L.) Ach.: Imshaug, 1957  
 I-T Parmelia sulcata Tayl.: Hedrick, 1941  
[Parmeliella corallinoides (Hoffm.) Zahlbr.: Hedrick, 1941 ident. uncertain]  
 I Parmeliopsis ambigua (Wulf.) Nyl.: Meyer, 1979  
 I Parmeliopsis hyperopta (Ach.) Arn.: Howard, 1950, Hoffman & Kazmierski, 1969, Hoffman, 1971, Meyer, 1979  
Peltigera aphthosa (L.) Willd.: Hedrick, 1941, Thomson, 1950, Imshaug, 1957, Hoffman & Kazmierski, 1969  
Peltigera canina (L.) Willd.: Hedrick, 1941, Hoffman & Kazmierski, 1969  
Peltigera canina var. rufescens (Weis) Mudd: Thomson, 1950, Imshaug, 1957  
Peltigera canina var. spuria (Ach.) Schaer.: Thomson, 1950, Imshaug, 1957  
Peltigera collina (Ach.) Ach.: Thomson, 1950  
Peltigera membranacea (Ach.) Nyl.: Thomson, 1950  
Peltigera polydactyla (Neck.) Hoffm.: Thomson, 1950, Hedrick, 1941  
Peltigera venosa (L.) Baumg.: Hedrick, 1941, Howard, 1950, Thomson, 1950  
Pertusaria glaucomela (Tuck.) Nyl.: Hedrick, 1941  
 I Pertusaria multipuncta (Turn.) Nyl.: Hedrick, 1941, Howard, 1950  
Pertusaria ophthalmiza (Nyl.) Nyl.: Dibben, 1980  
Pertusaria subambigens Dibb.: Dibben, 1980  
Phaeocalicium curtisii (Tuck.) Tibell: Hedrick, 1941  
Physconia muscigena (Ach.) Poelt: Howard, 1950, Imshaug, 1957  
Pilophorus cereolus (Ach.) Th. Fr.: Hedrick, 1941, Howard, 1950  
Placopsis gelida (L.) Linds.: Hedrick, 1941, Howard, 1950

- I     Platismatia glauca (L.) W. Culb. & C. Culb.: Hedrick, 1941, Hoffman & Kazmierski, 1969, Hoffman, 1971  
Platismatia herrei (Imsh.) W. Culb. & C. Culb.: Culberson & Culberson, 1968, Hoffman & Kazmierski, 1969  
Pseudephebe pubescens (L.) Choisy: Imshaug, 1957  
Psoroma hypnorum (Vahl) S. Gray: Hedrick, 1941, Howard, 1950  
Rhizocarpon badioatrum (Flörke ex. Spreng.) Th. Fr.: Hedrick, 1941  
Rhizocarpon geographicum (L.) DC.: Hedrick, 1941, Howard, 1950  
Rhizocarpon grande (Flörke ex Flot.) Arn.: Hedrick, 1941  
Rhizocarpon lecanorinum (Körb.) And.: Hedrick, 1941  
Rhizocarpon oederi (G. Web.) Körb.: Hedrick, 1941  
Solorina crocea (L.) Ach.: Hedrick, 1941, Howard, 1950, Imshaug, 1957  
Sphaerophorus globosus (Huds.) Vain.: Hedrick, 1941, Howard, 1950, Hoffman & Kazmierski, 1969  
[Stereocaulon paschale var. conglomeratum Fr.: Hedrick, 1941 misident.]  
Stereocaulon tomentosum Fr.: Hedrick, 1941  
Stereocaulon tomentosum var. simplex Riddle: Riddle, 1910 Hedrick, 1941  
Thamnia vermicularis (Sw.) Ach. ex Schaer.: Hedrick, 1941, Howard, 1950, Imshaug, 1957  
Thelotrema lepadinum (Ach.) Ach.: Hedrick, 1941  
Tholurna dissimilis (Norm.) Norm.: Otto, 1970, Pike, 1972  
Umbilicaria angulata Tuck.: Howard, 1950, Llano, 1950  
Umbilicaria hyperborea (Ach.) Hoffm.: Hedrick, 1941, Llano, 1950, Imshaug, 1957  
Umbilicaria nylanderiana Zahlbr.: Llano, 1950  
Umbilicaria proboscidea (L.) Schrad.: Hedrick, 1941, Llano, 1950, Imshaug, 1957  
Umbilicaria torrefacta (Lightf.) Schrad.: Llano, 1950, Imshaug, 1957  
Usnea compacta Mot.: Eyerdam, 1960

# OLYM REFERENCES

- Ahti, T. 1961. Taxonomic studies on reindeer lichens (Cladonia, subgenus Cladina). Ann. Bot. Zool. Bot. Fenn. "Vanamo" 32(1):iv + 160.
- Anderson, R. A. 1974. Additions to the lichen flora of North America - III. Bryologist 77:41-47.
- Anderson, R. & M.-B. Carmer. 1974. Additions to the lichen flora of Colorado. Bryologist 77:216-223.
- Brodo, I. M. & D. L. Hawksworth. 1977. Alecatoria and allied genera in North America. Opera Botanica 42:1-164.
- Culberson, W. L. & C. F. Culberson. 1968. The lichen genera Cetrelia and Platismatia (Parmeliaceae). Contrib. U. S. Nat. Herbarium 34 (7):449-558.
- Dibben, M. J. 1980. The chemosystematics of the lichen genus Pertusaria in North America north of Mexico. Milwaukee Public Museum, Biol. 5:1-162.
- Eyderdam, W. J. 1960. Lichens new to the state of Washington. Bryologist 63:107-110.
- Hedrick, J. 1941. Lichens in and near the Olympic National Park, Washington. Pap. Michigan Acad. Sci. Arts and Letters 27:45-56.
- Hoffman, G. R. 1971. An ecologic study of epiphytic bryophytes and lichens on Pseudotsuga menziesii on the Olympic Peninsula, Washington II. Diversity of the vegetation. Bryologist 74:413-427.
- Hoffman, G. R. & R. G. Kazierski. 1969. An ecologic study of epiphytic bryophytes and lichens on Pseudotsuga menziesii on the Olympic Peninsula, Washington I. A description of the vegetation. Bryologist 72:1-19.
- Howard, G. E. 1937. Preliminary report on the lichens of the state of Washington. Bryologist 40 (6): 91-112.
- Howard, G. E. 1950. Lichens of the state of Washington. Univ. of Wash. Press. 191pp.
- Imshaug, H. A. 1950a. New and noteworthy lichens from Mt. Rainier National Park. Mycologia 42:743-752.
- Imshaug, H. A. 1957. Alpine lichens of western United States and adjacent Canada. I, The macrolichens. Bryologist 60:177-272.
- Llano, G. A. 1950. A monograph of the lichen family Umbilicariaceae in the western hemisphere. Off. Naval Res., Washington, D. C. (Navexos P-831):1-281.
- Meyer, S. F. 1979. The lichen genus Parmeliopsis in North America. MS thesis, Univ. of Minnesota.
- Otto, G. F. 1970. New localities for Tholurna dissimilis in the Pacific northwest. Bryologist 73:635-636.
- Pike, L. H. 1972. Tholurna dissimilis in Oregon. Bryologist 75:578-580.
- Riddle, L. W. 1910. The North American species of Stereocaulon. Bot. Gaz. 50:285-304.
- Thomson, J. W. 1950. The species of Peltigera of North America north of Mexico. Amer. Midl. Nat. 44:1-68.
- Thomson, J. W. 1969. A catalogue of the lichens of the state of Washington. Dept. of Botany, Univ. of Wisconsin. 1-59.

Tibell, L. 1975. The Caliciales of boreal North America. Symb.  
Bot. Ups. 21(2):1-128.

PEFO - PETRIFIED FOREST NATIONAL PARK

No lichens reported : Unknown



PINN - PINNACLES NATIONAL MONUMENT

Total number of species = 1 : Unknown

Parmelia conspersa (Ach.) Ach.: Herre, 1946

PINN REFERENCES

Herre, A. W. 1946. The Parmelias of California. Contrib.  
Dudley Herb. 3:313-350.

PORE - POINT REYES NATIONAL SEASHORE

No lichens reported : Unknown

REDW - REDWOOD NATIONAL PARK

Total number of species = 32 : Poorly known

- I Alectoria sarmentosa (Ach.) Ach.: Sweet, 1983  
Bryoria abbreviata (Müll. Arg.) Brodo & Hawksw.: Sweet, 1983  
Bryoria fremontii (Tuck.) Brodo & Hawksw.: Sweet, 1983  
Bryoria glabra (Mot.) Brodo & Hawksw.: Sweet, 1983  
Cavernularia lophyrea (Ach.) Degel.: Sweet, 1983  
Cetraria canadensis (Räs.) Räs.: Sweet, 1983  
S Cetraria chlorophylla (Willd.) Vain.: Sweet, 1983  
I Cetraria orbata (Nyl.) Fink: Sweet, 1983  
Cladonia chlorophaea (Flörke ex Somm.) Spreng.: Sweet, 1983  
I Cladonia coniocraea (Flörke) Spreng.: Sweet, 1983  
Cladonia deformis (L.) Hoffm.: Sweet, 1983  
S-I Cladonia fimbriata (L.) Fr.: Sweet, 1983  
Cladonia furcata (Huds.) Schrad.: Sweet, 1983  
Cladonia macilenta Hoffm.: Sweet, 1983  
Cladonia scabruiscula (Del. ex Duby) Nyl.: Sweet, 1983  
Cladonia squamosa (Scop.) Hoffm.: Sweet, 1983  
Cladonia transcendens (Vain.) Vain.: Sweet, 1983  
Cladonia verticillata (Hoffm.) Schaer.: Sweet, 1983  
I Evernia prunastri (L.) Ach.: Sweet, 1983  
Hypogymnia enteromorpha (Ach.) Nyl.: Sweet, 1983  
Hypogymnia imshaugii Krog: Sweet, 1983  
Hypogymnia inactiva (Krog) Ohls.: Sweet, 1983  
I Hypogymnia physodes (L.) W. Wats.: Sweet, 1983  
Hypogymnia tubulosa (Schaer.) Hav.: Sweet, 1983  
Letharia vulpina (L.) Hue: Sweet, 1983  
Lobaria oregana (Tuck.) Müll. Arg.: Sweet, 1983  
S Lobaria pulmonaria (L.) Hoffm.: Sweet, 1983  
Lobaria scrobiculata (Scop.) DC.: Sweet, 1983  
Ochrolechia pallescens (L.) Mass.: Sweet, 1983  
Pannaria leucostictoides (Tuck.) Tuck. ex Nyl.: Sweet, 1983  
Parmelia arnoldii Du Reitz: Sweet, 1983  
I Parmelia saxatilis (L.) Ach.: Sweet, 1983  
I-T Parmelia sulcata Tayl.: Sweet, 1983  
Pertusaria sp.: Sweet, 1983  
I Platismatia glauca (L.) W. Culb. & C. Culb.: Sweet, 1983  
Platismatia herrei (Imsh.) W. Culb. & C. Culb.: Sweet, 1983  
Platismatia stenophylla (Tuck.) W. Culb. & C. Culb.: Sweet, 1983  
Physcia sp.: Sweet, 1983  
Sphaerophorus globosus (Huds.) Vain.: Sweet, 1983  
S-I Usnea hirta (L.) Wigg.: Sweet, 1983  
Usnea longissima Ach.: Sweet, 1983  
S-I Usnea subfloridana Stirt.: Sweet, 1983

REDW - REFERENCES

Sweet, S. 1983. Lichens of Little Bald Hills, Del Norte,  
Co., Redwood National Park. Mimeographed report.

ROMO - ROCKY MOUNTAIN NATIONAL PARK

Total number of species = 348 : Well known

5 species with type localities in the park

- Acarospora chlorophana (Wahlenb. ex Ach.) Mass.: MIN HERB  
Acarospora fuscata (Schrad.) Arn.: MIN HERB  
Acarospora molybdina (Wahlenb. ex Ach.) Trev.: MIN HERB  
Acarospora thamnina (Tuck.) Herre: MIN HERB  
Arthonia lapidicola (Tayl.) Branth. & Rostr.: Anderson & Carmer, 1974  
Aspicilia alphoplaca (Wahlenb. ex Ach.) Ach.: MIN HERB  
Aspicilia caesiocinerea (Nyl. ex Malbr.) Arn.: MIN HERB  
Aspicilia cinerea (L.) K rb.: MIN HERB  
Aspicilia cinereorufescens (Ach.) Mass.: Anderson & Carmer, 1974  
Aspicilia gibbosula (Magn.) ined.: MIN HERB  
Aspicilia laevata (Ach.) Arn.: MIN HERB  
Aspicilia melanaspis (Ach.) Poelt & Leuck.: MIN HERB  
Aspicilia submersa (Lamy) Hue: MIN HERB  
Bacidia incompta (Borr. ex Hook.) Anzi: MIN HERB  
Bacidia inundata (Fr.) K rb.: Anderson & Carmer, 1974  
Bacidia umbrina (Ach.) Bausch: MIN HERB  
Bryoria chalybeiformis (L.) Brodo & Hawksw.: Brodo & Hawksworth, 1977  
I Bryoria fuscescens (Gyeln.) Brodo & Hawksw.: Brodo & Hawksworth, 1977  
Bryoria lanestris (Ach.) Brodo & Hawksw.: Brodo & Hawksworth, 1977  
Bryoria simplicior (Vain.) Brodo & Hawksw.: Brodo & Hawksworth, 1977  
Buellia dialyta (Nyl.) Tuck.: MIN HERB  
Buellia jugorum (Arn.) Arn.: Anderson, 1974  
Buellia lacteoides B. de Lesd.: Anderson & Carmer, 1974  
Buellia pullata Tuck.: MIN HERB  
T Buellia punctata (Hoffm.) Mass.: Imshaug, 1951, MIN HERB  
Buellia triphragmioides Anzi: Anderson & Carmer, 1974  
Buellia vilis Th. Fr.: Imshaug, 1951  
Caloplaca arenaria (Pers.) M ll. Arg.: MIN HERB  
Caloplaca cirrochroa (Ach.) Th. Fr.: MIN HERB  
Caloplaca citrina (Hoffm.) Th. Fr.: MIN HERB  
Caloplaca diphyodes (Nyl.) Jatta: Anderson, 1967  
Caloplaca epithallina Lynge: MIN HERB  
Caloplaca ferruginea (Huds.) Th. Fr.: MIN HERB  
Caloplaca fraudans (Th. Fr.) Oliv.: Rudolph, 1955  
Caloplaca herbidella (Hue.) Magn.: Anderson, 1974, MIN HERB  
I Caloplaca holocarpa (Hoffm.) Wade: MIN HERB  
Caloplaca jungermanniae (Vahl) Th. Fr.: MIN HERB  
Caloplaca livida (Hepp) Jatta: Rudolph, 1955  
Caloplaca sideritis (Tuck.) Zahlbr.: Rudolph, 1955  
Caloplaca trachyphylla (Tuck.) Zahlbr.: MIN HERB  
Candelariella aurella (Hoffm.) Zahlbr.: MIN HERB  
Candelariella reflexa (Nyl.) Lett.: MIN HERB

- I Candelariella vitellina (Ehrh.) Müll. Arg.: MIN HERB  
S-I Candelariella xanthostigma (Ach.) Lett.: Anderson & Carmer, 1974, MIN HERB  
Cetraria coralligera (W. Web.) Hale: MIN HERB  
Cetraria cucullata (Bell.) Ach.: MIN HERB  
Cetraria ericetorum Opiz: Imshaug, 1957, MIN HERB  
Cetraria islandica (L.) Ach.: Weber & Shushan, 1955, MIN HERB  
Cetraria islandica (L.) Ach. subsp. islandica: Imshaug, 1957  
Cetraria nivalis (L.) Ach.: Weber & Shushan, 1955, Imshaug, 1957, MIN HERB  
I Cetraria pinastri (Scop.) S. Gray: MIN HERB  
Cetraria tilesii Ach.: Imshaug, 1957, MIN HERB  
I Chaenotheca ferruginea (Turn. ex Sm.) Mig.: Anderson & Carmer, 1974  
Cladonia anomala (Ach.) Ahti: MIN HERB  
Cladonia cariosa (Ach.) Spreng.: Culberson, 1969, MIN HERB  
Cladonia carneola (Fr.) Fr.: MIN HERB  
Cladonia cenotea (Ach.) Schaer.: MIN HERB  
Cladonia chlorophaea (Flörke ex Somm.) Spreng.: MIN HERB  
Cladonia coccifera (L.) Willd.: MIN HERB  
Cladonia deformis (L.) Hoffm.: MIN HERB  
Cladonia ecmocyna (Ach.) Nyl.: MIN HERB  
Cladonia gracilis (L.) Willd.: MIN HERB  
Cladonia mateocyatha Robb.: MIN HERB  
Cladonia phyllophora Hoffm.: MIN HERB  
Cladonia stricta (Nyl.) Nyl.: MIN HERB  
Cladonia sulphurina (Michx.) Fr.: MIN HERB  
Collema furfuraceum (Arn.) Du Ruitz: MIN HERB  
Collema glebulentum (Nyl. ex Cromb.) Degel.: Degelius, 1974  
Collema tuniforme (Ach.) Ach.: MIN HERB  
Coniocybe furfuracea (L.) Ach.: Anderson & Carmer, 1974  
Cornicularia aculeata (Schreb.) Ach.: Weber & Shushan, 1955, Imshaug, 1957, MIN HERB  
Cyphelium lucidum (Th. Fr.) Th. Fr.: Anderson & Carmer, 1974  
Cyphelium notarisii (Tul.) Blomb. & Forss.: MIN HERB  
Cystocoleus ebeneus (Dill.) Thwaites: Anderson, 1967  
Dactylina madreporiformis (Wulf.) Tuck.: Weber & Shushan, 1955, Imshaug, 1957, MIN HERB  
Dermatocarpon cinereum (Pers.) Th. Fr.: MIN HERB  
Dermatocarpon lachneum (Ach.) A. L. Sm.: MIN HERB  
Dermatocarpon miniatum (L.) Mann: MIN HERB  
Dermatocarpon moulinii (Mont.) Zahlbr.: MIN HERB  
Dermatocarpon reticulatum Magn.: MIN HERB  
Dermatocarpon weberi (Ach.) Mann: MIN HERB  
Dimelaena oreina (Ach.) Norm.: Sheard, 1974  
Dimerella diluta (Pers.) Trev.: Anderson & Carmer, 1974  
Diploschistes scruposus (Schreb.) Norm.: MIN HERB  
Endocarpon pusillum Hedw.: MIN HERB  
Ephebe ocellata Henss.: MIN HERB  
Ephebe solida Born.: MIN HERB

- S Evernia divaricata (L.) Ach.: MIN HERB  
Heppia lutosa (Ach.) Nyl.: Wetmore, 1970, MIN HERB  
Heterodermia speciosa (Wulf.) Trev.: MIN HERB  
Huilia flavocaerulescens (Hornem.) Hertel: Anderson, 1964, MIN HERB  
Huilia macrocarpa (DC.) Hertel: Anderson, 1964  
Hypogymnia austerodes (Nyl.) Räs.: MIN HERB  
Hypogymnia bitteriana (Zahlbr.) Räs.: Anderson & Carmer, 1974  
Hypogymnia intestiniformis (Vill.) Räs.: Imshaug, 1957, MIN HERB
- I Hypogymnia physodes (L.) W. Wats.: MIN HERB  
Hypogymnia subobscura (Vain.) Poelt: Imshaug, 1957, MIN HERB  
Hypogymnia tubulosa (Schaer.) Hav.: Anderson & Carmer, 1974  
Ionaspis epulotica (Ach.) Th. Fr.: MIN HERB  
Koerberia sonomensis (Tuck.) Henss.: Anderson & Carmer, 1974  
Lasallia papulosa (Ach.) Llano: Llano, 1950  
Lasallia pustulata (L.) Mer.: MIN HERB  
Lecanora aquatica Hepp: MIN HERB  
Lecanora atra (Huds.) Ach.: Anderson & Carmer, 1974, MIN HERB  
Lecanora badia (Hoffm.) Ach.: MIN HERB  
Lecanora cadubriae (Mass.) Hedl.: Anderson & Carmer, 1974, MIN HERB
- I Lecanora carpineae (L.) Vain.: Imshaug & Brodo, 1966  
Lecanora chloropolia (Erichs.) Almb.: Anderson & Carmer, 1974  
Lecanora effusa (Pers.) Ach.: MIN HERB  
Lecanora epibryon (Ach.) Ach.: MIN HERB  
Lecanora frustulosa (Dicks.) Ach.: MIN HERB  
Lecanora hypoptoides Nyl.: MIN HERB  
Lecanora polytropa (Ehrh.) Rabenh.: MIN HERB  
Lecanora rugosella Zahlbr.: MIN HERB  
Lecanora rupicola (L.) Zahlbr.: MIN HERB
- I Lecanora saligna (Schrad.) Zahlbr.: MIN HERB  
I Lecanora symmictera Nyl.: MIN HERB  
Lecanora umbrosa Degel.: Anderson, 1974  
Lecidea aenea (Duf.) Nyl.: Anderson, 1962, Anderson, 1964  
Lecidea alaiensis Vain.: Anderson, 1964  
Lecidea armeniaca (DC.) Fr.: Anderson, 1964  
Lecidea assimilata Nyl.: Anderson, 1964  
Lecidea atrobrunnea (Ram.) Schaer.: Anderson, 1964  
Lecidea auriculata Th. Fr.: Anderson, 1964, MIN HERB  
Lecidea berengeriana (Mass.) Nyl.: Anderson, 1964, MIN HERB  
Lecidea caesioalbescens (Magn.) Vain.: Anderson, 1964  
Lecidea cinereorufa Schaer.: Anderson, 1964  
Lecidea circumnigrata var. reagens Magn.: Anderson & Carmer, 1974
- \* Lecidea coloradensis R. Anders. ined.: Anderson, 1964  
Lecidea conferenda Nyl.: Anderson, 1964, MIN HERB  
Lecidea decipiens (Hedw.) Ach.: Anderson, 1964, MIN HERB

- Lecidea demissa (Rutstr.) Ach.: Anderson, 1964  
Lecidea dicksonii (Gmel.) Ach.: Anderson, 1964  
Lecidea elabens Fr.: Anderson, 1964  
Lecidea friesii Ach.: Anderson, 1964  
Lecidea geophana Nyl.: MIN HERB  
Lecidea globifera Ach.: Anderson, 1964  
Lecidea granulosa (Ehrh.) Ach.: Anderson, 1964, MIN HERB  
Lecidea instrata Nyl.: Anderson, 1964  
Lecidea insularis Nyl.: Anderson, 1964  
\* Lecidea kieneri R. Anders. ined.: Anderson, 1964  
Lecidea lapicida (Ach.) Ach.: Anderson, 1964  
Lecidea leucothallina Arn.: Anderson, 1964, Anderson,  
1965  
Lecidea luridella Tuck.: Anderson, 1964, Schneider, 1979,  
MIN HERB  
Lecidea lyngei Degel.: Anderson, 1964  
Lecidea marginata Schaer.: Anderson, 1964  
Lecidea novomecicana (B. de Lesd.) W. Web.: Anderson,  
1964  
Lecidea oligotropha Laund.: Anderson, 1964  
Lecidea pantherina (Hoffm.) Th. Fr.: Anderson, 1964  
Lecidea recessa Magn.: Anderson, 1964  
Lecidea rubiformis (Wahlenb. ex Ach.) Wahlenb.: Anderson,  
1964  
Lecidea rufofusca (Anzi) Th. Fr.: Anderson, 1964  
Lecidea rufonigra (Tuck.) Nyl.: Anderson, 1964  
Lecidea sanguineoatra (Wulf.) Ach.: Anderson, 1964, MIN  
HERB  
\* Lecidea saximontana R. Anders. ined.: Anderson, 1964  
\* Lecidea saxosa R. Anders. ined.: Anderson, 1964  
I Lecidea scalaris (Ach.) Ach.: Anderson, 1964  
Lecidea scholanderi Lynge: Anderson, 1976  
Lecidea tempeltonii Tayl.: Anderson, 1964  
Lecidea tenebrosa Flot.: Anderson, 1964  
Lecidea tessellata (Ach.) Flörke: Anderson, 1964  
\* Lecidea tuckermanii R. Anders. ined.: Anderson, 1964  
Lecidea turgidula Fr.: Anderson, 1964  
Lecidea uliginosa (Schrad.) Ach.: Anderson, 1964  
S Lecidea vernalis (L.) Ach.: Anderson, 1964  
Lecidea vorticosa (Flörke) Krb.: Anderson, 1964  
Lecidella bullata Krb.: Anderson, 1974  
Lecidella carpathica Krb.: Anderson, 1964  
I Lecidella elaeochroma (Ach.) Haszl.: MIN HERB  
Lecidella euphorea (Flörke) Hertel: Anderson, 1964  
Lecidella incongruella (Vain.) Hertel & Leuck.: Anderson,  
1974  
Lecidella stigmathea (Ach.) Hertel & Leuck.: Anderson,  
1964  
Lecidella wulfenii (Hepp) Krb.: Anderson, 1964  
Leprocaulon albicans (Th. Fr.) Nyl.: MIN HERB  
Leprocaulon subalbicans (Lamb) Lamb & Ward: Lamb & Ward,  
1974  
Leptogium lichenoides (L.) Zahlbr.: Sierk, 1964, MIN HERB  
Leptogium riviale Tuck.: Sierk, 1964  
Leptogium saturnium (Dicks.) Nyl.: MIN HERB



- Leptogium tenuissimum (Dicks.) Fr.: Sierk, 1964  
Lopadium fecundum Th. Fr.: Anderson, 1967  
Massalongia carnosa (Dicks.) K rb.: Henssen, 1963a  
Micarea tuberculata (Somm.) R. Anders.: Anderson, 1974,  
 MIN HERB  
Mocrothelia aterrima (Anzi) Zahlbr.: MIN HERB  
Mycoblastus tornoensis (Nyl.) R. Anders.: Anderson &  
 Carmer, 1974, MIN HERB  
Nephroma helveticum Ach.: Wetmore, 1960  
Nephroma parile (Ach.) Ach.: Wetmore, 1960, MIN HERB  
Omphalodiscus decussata (Vill.) Schol.: Imshaug, 1957,  
 MIN HERB  
Omphalodiscus krascheninnikovii (Sav.) Schol.: Llano,  
 1950, Imshaug, 1957, MIN HERB  
Omphalodiscus virginis (Schaer.) Schol.: Llano, 1950,  
 Imshaug, 1957, MIN HERB  
Pachyospora mutabilis (Ach.) Mass.: MIN HERB  
Pannaria pezizoides (G. Web.) Trev.: MIN HERB  
Pannaria pityrea (DC.) Degel.: MIN HERB  
Pannaria praetermissa Nyl.: MIN HERB  
 I Parmelia caperata (L.) Ach.: MIN HERB  
Parmelia chlorochroa Tuck.: MIN HERB  
Parmelia congruens Ach.: MIN HERB  
Parmelia disjuncta Erichs.: MIN HERB  
Parmelia elegantula (Zahlbr.) Szat.: MIN HERB  
Parmelia mougeotii (Flot.) Schaer.: Anderson, 1967  
 I Parmelia olivacea (L.) Ach.: MIN HERB  
 I Parmelia saxatilis (L.) Ach.: MIN HERB  
Parmelia soledica Nyl.: Imshaug, 1957  
Parmelia solediosa Almb.: Anderson & Carmer, 1974  
Parmelia stygia (L.) Ach.: MIN HERB  
 I-T Parmelia subargentifera Nyl.: MIN HERB  
Parmelia subcentrifuga Oxn.: Anderson, 1976, MIN HERB  
Parmelia subolivacea Nyl. in Hasse: MIN HERB  
Parmelia substygia R s.: MIN HERB  
 I-T Parmelia sulcata Tayl.: MIN HERB  
Parmelia taractica Kremp.: MIN HERB  
 I Parmeliopsis ambigua (Wulf.) Nyl.: MIN HERB  
Peltigera apthosa (L.) Willd.: Thomson, 1950, Imshaug,  
 1957, MIN HERB  
Peltigera canina (L.) Willd.: Kiener, 1939, Thomson,  
 1950, MIN HERB  
Peltigera canina var. rufescens (Weis) Mudd: Kiener,  
 1939, Thomson, 1950  
Peltigera canina var. spuria (Ach.) Schaer.: Kiener,  
 1939, Thomson, 1950  
Peltigera collina (Ach.) Ach.: Thomson, 1950, MIN HERB  
Peltigera elisabethae Gyeln.: MIN HERB  
 I Peltigera horizontalis (Huds.) Baumg.: Kiener, 1939, MIN  
 HERB  
Peltigera lepidophora (Nyl.) Vain.: Kiener, 1939,  
 Thomson, 1950  
Peltigera leucophlebia (Nyl.) Gyeln.: Kiener, 1939  
Peltigera malacea (Ach.) Funck: Kiener, 1939, Thomson,  
 1950, MIN HERB

- Peltigera membranacea (Ach.) Nyl.: Thomson, 1950  
Peltigera polydactyla (Neck.) Hoffm.: Thomson, 1950, MIN  
 HERB  
Peltigera venosa (L.) Baumg.: Kiener, 1939, Thomson, 1950  
Peltula euploca (Ach.) Oz. & Claud.: Wetmore, 1970, MIN  
 HERB  
Pertusaria octomela (Norm.) Erichs.: Anderson & Carmer,  
 1974, Dibben, 1980  
Pertusaria saximontana Wetm.: Anderson & Carmer, 1974  
Phaeophyscia ciliata (Hoffm.) Essl.: MIN HERB  
Phaeophyscia endococcinea (Körb.) Essl.: MIN HERB  
Physcia cascadiensis Magn.: MIN HERB  
Physcia clementi (Sm.) Maas G.: MIN HERB  
Physcia dubia (Hoffm.) Lett.: MIN HERB  
Physcia mexicana B. de Lesd.: MIN HERB  
Physcia stellaris (L.) Nyl.: Thomson, 1963, MIN HERB  
Physconia detera (Nyl.) Poelt: Thomson, 1963  
Physconia enteroxantha (Nyl.) Poelt: Anderson & Carmer,  
 1974  
Physconia muscigena (Ach.) Poelt: Imshaug, 1975, Thomson,  
 1963, MIN HERB  
Placynthium nigrum (Huds.) S. Gray: Henssen, 1963c  
Polyblastia theleodes (Somm.) Th. Fr.: MIN HERB  
Polychidium albociliatum (Desm.) Zahlbr.: Anderson &  
 Carmer, 1974  
Porina mammosa (Th. Fr.) Vain.: Anderson, 1967  
Pseudephebe minuscula (Nyl. ex Arn.) Brodo & Hawksw.:  
 Imshaug, 1957, MIN HERB  
Psoroma hypnorum (Vahl) S. Gray: MIN HERB  
Rhizocarpon anaperum (Vain.) Vain.: Anderson, 1965  
Rhizocarpon badioatrum (Flörke ex Spreng.) Th. Fr.: MIN  
 HERB  
Rhizocarpon effiguratum (Anzi) Th. Fr.: Anderson, 1965,  
 MIN HERB  
Rhizocarpon geographicum (L.) DC.: MIN HERB  
Rhizocarpon grande (Flörke ex Flot.) Arn.: MIN HERB  
Rhizocarpon intermediellum Räs.: Anderson, 1965  
Rhizocarpon intersitum Arn.: Anderson, 1965  
Rhizocarpon macrosporum Räs.: Anderson, 1965  
Rhizocarpon norvegicum Räs.: Anderson, 1965  
Rhizocarpon obscuratum (Ach.) Mass.: Anderson & Carmer,  
 1974  
Rhizocarpon permodestum Arn.: Anderson, 1974  
Rhizocarpon polycarpum (Hepp) Th. Fr.: Anderson, 1965  
Rhizocarpon sphaerosporum Räs.: Anderson, 1965  
Rhizocarpon superficiale (Schaer.) Vain.: MIN HERB  
Rhizocarpon tetramerum Vain.: Anderson & Carmer, 1974  
Rhizoplaca chrysoleuca (Smith) Zopf: MIN HERB  
Rhizoplaca melanophthalma (Ram.) Leuck. & Poelt: MIN HERB  
Rinodina exigua (Ach.) S. Gray: MIN HERB  
Rinodina hueana Wain.: MIN HERB  
Rinodina mniaraea (Ach.) Körb.: MIN HERB  
Rinodina nimboza (Fr.) Th. Fr.: MIN HERB  
Rinodina turfacea (Wahlenb.) Körb.: MIN HERB  
Solorina bispora Nyl.: MIN HERB

- Solorina crocea (L.) Ach.: Imshaug, 1957, MIN HERB  
Spilonema revertens Nyl.: MIN HERB  
Sporastatia testudinea (Ach.) Mass.: MIN HERB  
Stereocaulon alpinum Laur.: Imshaug, 1957, MIN HERB  
Stereocaulon rivulorum Magn.: MIN HERB  
Stereocaulon tomentosum Fr.: MIN HERB  
Thamnia subuliformis (Ehrh.) W. Culb.: MIN HERB  
Thamnia vermicularis (Sw.) Ach. ex Schaer.: Weber &  
     Shushan, 1955, Imshaug, 1957  
Toninia conglomerata (Ach.) Boist.: MIN HERB  
Toninia squalida (Schleich. ex Ach.) Mass.: MIN HERB  
Umbilicaria arctica (Ach.) Nyl.: MIN HERB  
Umbilicaria deusta (L.) Baumg.: Llano, 1950, MIN HERB  
Umbilicaria torrefacta (Lightf.) Schrad.: MIN HERB  
Umbilicaria vellea (L.) Ach.: Llano, 1950, MIN HERB  
Usnea fulvovirens (Räs.) Räs.: MIN HERB  
I Xanthoria candelaria (L.) Th. Fr.: MIN HERB  
Xanthoria elegans (Link) Th. Fr.: MIN HERB  
I Xanthoria polycarpa (Ehrh.) Oliv.: MIN HERB  
Xylographa minutula Krb.: MIN HERB  
Xylographa vitiligo (Ach.) Laund.: Anderson, 1967  
Zahlbrucknerella calcarea (Herre) Herre: Henssen, 1977  
Zahlbrucknerella fabispora Henss.: Henssen, 1977

# ROMO REFERENCES

- Anderson, R. A. 1962. The lichen flora of the Dakota sandstone in north-central Colorado. *Bryologist* 65:242-261.
- Anderson, R. A. 1964. The genus *Lecidea* (lichenized fungi) in Rocky Mountain National Park. PhD thesis, Univ. of Colorado.
- Anderson, R. A. 1965. Additions to the lichen flora of North America-I. *Bryologist* 68:54-63.
- Anderson, R. A. 1974. Additions to the lichen flora of North America- III. *Bryologist* 77:41-47.
- Anderson, R. A. 1976. Lichens of western North America. Univ. of Denver, Denver. (Scheda for exsiccat)
- Anderson, R. & M.-B. Carmer. 1974. Additions to the lichen flora of Colorado. *Bryologist* 77:216-223.
- Brodo, I. M. & D. L. Hawksworth. 1977. *Alectoria* and allied genera in North America. *Opera Botanica* 42:1-164.
- Culberson, W. L. 1969. The chemistry and systematics of some species of the *Cladonia cariosa* group in North America. *Bryologist* 72: 377-386.
- Degelius, G. 1974. The lichen genus *Collema* with special reference to the extra-European species. *Symb. Bot. Ups.* 20(2):1-215.
- Dibben, M. J. 1980. The chemosystematics of the lichen genus *Pertusaria* in North America north of Mexico. Milwaukee Public Museum, Biol. 5:1-162.
- Henssen, A. 1963a. The North American species of *Massalongia* and generic relationships. *Can. Jour. Bot.* 41:1331-1346.
- Henssen, A. 1963c. The North American species of *Placynthium*. *Can. Jour. Bot.* 41:1687-1724.
- Henssen, A. 1977. The genus *Zahlbrucknerella*. *Lichenologist* 9:17-46.
- Imshaug, H. A. 1951. The lichen-forming species of the genus *Buellia* occurring in the United States and Canada. PhD. thesis, Univ. of Michigan.
- Imshaug, H. A. 1957. Alpine lichens of western United States and adjacent Canada. I. The macrolichens. *Bryologist* 60:177-272.
- Imshaug, H. A. & I. M. Brodo. 1966. Biosystematic studies on *Lecanora pallida* and some related lichens in the Americas. *Nova Hedwigia* 12:1-59.
- Kiener, W. 1939. *Peltigera* on Longs Peak, Colorado, and in Iowa County, Iowa. *Bryologist* 42:142-149.
- Lamb, I. M. & A. Ward. 1974. A preliminary conspectus of the species attributed to the imperfect lichen genus *Leprocaulon* Nyl. *Jour. Hattori Bot. Lab.* 38:499-553.
- Llano, G. A. 1950. A monograph of the lichen family Umbilicariaceae in the western hemisphere. Off. Naval Res., Washington, D. C. (Navexos P-831):1-281.
- Rudolph, E. D. 1955. Revisionary studies in the lichen family Blasteniaceae in North America north of Mexico. Ph. D. Thesis, Washington, Univ.
- Schneider, G. 1979. Die Flechtengattung *Psora* sensu Zahlbruckner. *Bibliotheca Lichenologica* 13. 291pp.
- Sheard, J. W. 1974. The genus *Dimelaena* in North America north

- of Mexico. Bryologist 77:128-141 (including simplified locality list provided in mimeograph form as supplement).
- Sierk, H. A. 1964. The genus Leptogium in North America north of Mexico. Bryologist 67:245-317.
- Thomson, J. W. 1950. The species of Peltigera of North America north of Mexico. Amer. Midl. Nat. 44:1-68.
- Thomson, J. W. 1963. The lichen genus Physcia in North America. Nova Hedwigia, Beih. 7, viii + 172.
- Weber, W. & S. Shushan. 1955. The lichen flora of Colorado. Cetraria, Cornicularia, Dactylina, and Thamnolia. Univ. of Colorado Stud., Ser. Biol. 3:115-133.
- Wetmore, C. M. 1960. The lichen genus Nephroma in North and Middle America. Publ. Museum, Michigan State Univ., Biol. Ser. 1:369-452.
- Wetmore, C. M. 1970. The lichen family Heppiaceae in North America. Ann. Missouri Bot. Gard. 57:158-209.

SAGU - SAGUARO NATIONAL MONUMENT

Total number of species = 4 : Poorly known

Heppia lutosa (Ach.) Nyl.: Wetmore, 1970

Peltula obscurans var. deserticola (Zahlbr.) Wetm.: Wetmore, 1970

Peltula obscurans var. hassei (Zahlbr.) Wetm.: Wetmore, 1970

Peltula polyspora (Tuck.) Wetm.: Wetmore, 1970

SAGU REFERENCES

Wetmore, C. M. 1970. The lichen family Heppiaceae in North America. Ann. Missouri Bot. Gard. 57:158-209.

# SEKI - SEQUOIA NATIONAL PARK

Total number of species = 41 : Poorly known

1 species with type locality in the park

- Bryoria abbreviata (Müll. Arg.) Brodo & Hawk.: Brodo & Hawk., 1977, Smith, 1980
- I Bryoria fremontii (Tuck.) Brodo & Hawk.: Smith, 1980
- S Bryoria fuscescens (Gyck.) Brodo & Hawk.: Smith, 1980
- Cetraria chlorophylla (Willd.) Vain.: Smith, 1980
- Cetraria furfuracea (Arn.) DC.: Smith, 1980
- Collema nigrescens (Huds) DC.: Smith, 1980
- Dermatocarpon miniatum (L.) Mann: Smith, 1980
- Heterodermia leucomela (L.) Poelt: Smith, 1980
- Hypogymnia enteromorpha (Ach.) Nyl.: Smith, 1980
- Hypogymnia imshaugii Krog: Smith, 1980
- Leptogium burnetiae Dodge: Smith, 1980
- Leptogium californicum Tuck.: Smith, 1980
- Leptogium lichenoides (L.) Zahlbr.: Smith, 1980
- Leptogium saturnium (Dicks) Nyl.: Smith, 1980
- Letharia columbiana (Nutt.) Thoms.: Smith, 1980, MIN HERB
- Letharia vulpina (L.) Hue: Smith, 1980, MIN HERB
- \* Mycocalicium sequoiae Bonar: Bonar, 1971
- S-I Normandina pulchella (Borr.) Nyl.: Rundel, 1968
- Parmelia conspersa (Ach.) Ach.: Smith, 1980
- Parmelia cumberlandia (Gyeln.) Hale: Smith, 1980
- Parmelia elegantula (Zahlbr.) Szat.: Smith, 1980
- I Parmelia exasperata De Not.: Smith, 1980
- Parmelia quercina (Willd.) Hale: Smith, 1980
- Parmelia sphaerospora (Müll. Arg.) Smith, 1980
- Parmelia subolivacea Nyl.: Smith, 1980
- I-T Parmelia sulcata Tayl.: Smith, 1980
- Peltigera canina (L.) Willd.: Smith, 1980
- Peltigera collina (Ach.) Ach.: Smith, 1980
- Peltigera membranacea (Ach.) Nyl.: Thomson, 1950
- I Physcia adscendens (Fr.) Oliv.: Smith, 1980
- I Physcia aipolia (Ehrh.) Hampe: Smith, 1980
- Physcia phaea (Tuck.) Thoms.: Smith, 1980
- I Physcia stellaris (L.) Nyl.: Smith, 1980
- I Physcia tenella (Scop.) DC.: Smith, 1980
- I Physconia detorsa (Nyl.) Poelt: Smith, 1980
- I Platismatia glauca (L.) W. Culb. & C. Culb.: Smith, 1980
- Polychidium albociliatum (Desm.) Zahlbr.: Smith, 1980
- S Ramalina farinacea (L.) Ach.: Smith, 1980
- Umbilicaria phaea Tuck.: Smith, 1980
- S-I Xanthoria fallax (Hepp) Arn.: Smith, 1980
- I Xanthoria polycarpa (Ehrh.) Oliv.: Smith, 1980

# SEKI REFERENCES

- Bonar, L. 1971. A new *Mycocalicium* on scarred sequoia in California. *Madroño* 21:62-69.
- Brodo, I. M. & D. L. Hawksworth. 1977. *Alectoria* and allied genera in North America. *Opera Botanica* 42: 1-164.
- Rundel, P. W. 1968. A new record for the state of California from Sequoia National Park. Unpublished report to NPS.
- Smith, D. W. 1980. A taxonomic survey of the macrolichens of Sequoia and Kings Canyon National Parks. Master thesis, San Francisco State University.
- Thomson, J. W. 1950. The species of *Peltigera* of North America north of Mexico. *Amer. Midl. Nat.* 44:1-68.



SHEN - SHENANDOAH NATIONAL PARK

Total number of species = 189 : Moderately known

1 species with type locality in the park

- Acarospora fuscata (Schrad.) Arn.: Forman & Sierk, 1970,  
Lawrey, 1980, MIN HERB
- Anaptychia palmulata (Michx.) Vain.: Forman & Sierk,  
1970, MIN HERB
- Anisomeridium subprostans (Nyl.) R. Harris: Forman &  
Sierk, 1970
- Anzia colpodes (Ach.) Stizenb.: Forman & Sierk, 1970, MIN  
HERB
- Arthopyrenia cinereopruinosa (Schaer.) Mass.: Forman &  
Sierk, 1970
- Arthopyrenia willeyana R. Harris: MIN HERB
- Arthothelium albobirescens (Nyl.) Fink: Forman & Sierk,  
1970
- Arthothelium spectabile Flot. ex Mass.: Forman & Sierk,  
1970, MIN HERB
- Aspicilia cinerea (L.) Krb.: Forman & Sierk, 1970, Law-  
rey, 1980, MIN HERB
- Aspicilia gibbosa (Ach.) Krb.: Lawrey, 1980
- I Bacidia chlorococca (Graewe ex Stizenb.) Lett.: Forman &  
Sierk, 1970, MIN HERB
- I Bacidia rubella (Hoffm.) Mass.: Forman & Sierk, 1970, MIN  
HERB
- Bacidia schweinitzii (Tuck.) Schneid.: Forman & Sierk,  
1970
- Bacidia umbrina (Ach.) Bausch: Forman & Sierk, 1970
- S Bryoria furcellata (Fr.) Brodo & Hawksw.: Forman & Sierk,  
1970
- Buellia disciformis (Fr.) Mudd: Lawrey, 1980
- Buellia polyspora (Will.) Vain.: Forman & Sierk, 1970
- I Buellia stillingiana J. Stein.: Forman & Sierk, 1970
- S Caloplaca flavovirescens (Wulf.) Dalla Torre & Sarnth.:  
Forman & Sierk, 1970
- S-I Candelaria concolor (Dicks.) Stein: Forman & Sierk, 1970
- Candelariella efflorescens Harris & Buck: MIN HERB
- Cetraria arenaria Krnef.: MIN HERB
- S-I Cetraria ciliaris Ach.: Forman & Sierk, 1970, MIN HERB
- Cetraria islandica (L.) Ach.: Forman & Sierk, 1970
- Cetraria oakesiana Tuck.: Forman & Sierk, 1970, Lawrey,  
1980, MIN HERB
- Cetrelia cetrarioides (Del. ex Duby) W. Culb. & C. Culb.:  
Culberson, 1965, Forman & Sierk, 1970, MIN HERB
- Cetrelia chicitae (W. Culb.) W. Culb. & C. Culb.: Forman  
& Sierk, 1970, MIN HERB
- Cetrelia olivetorum (Nyl.) W. Culb. & C. Culb.: Culberson  
& Culberson, 1968, Forman & Sierk, 1970, MIN HERB
- Cladonia apodocarpa Robb.: Forman & Sierk, 1970
- Cladonia bacillaris (Ach.) Nyl.: Forman & Sierk, 1970,  
MIN HERB

- Cladonia caespiticia (Pers.) Flörke: Forman & Sierk, 1970, MIN HERB
- Cladonia cariosa (Ach.) Spreng.: Forman & Sierk, 1970, MIN HERB
- Cladonia chlorophaea (Flörke ex Somm.) Spreng.: Forman & Sierk, 1970, MIN HERB
- I Cladonia coniocraea (Flörke) Spreng.: Forman & Sierk, 1970, MIN HERB
- Cladonia conista (Ach.) Robb.: Forman & Sierk, 1970
- Cladonia furcata (Huds.) Schrad.: Forman & Sierk, 1970, Lawrey, 1980, MIN HERB
- Cladonia pyxidata (L.) Hoffm.: Forman & Sierk, 1970, MIN HERB
- Cladonia rangiferina (L.) Wigg.: Forman & Sierk, 1970, MIN HERB
- Cladonia squamosa (Scop.) Hoffm.: Forman & Sierk, 1970, MIN HERB
- Cladonia subapodocarpa Harris: Lawrey, 1980
- Cladonia subtenuis (Abb.) Evans: Lawrey & Hale, 1981, MIN HERB
- Cladonia uncialis (L.) Wigg.: Forman & Sierk, 1970, MIN HERB
- Cladonia verticillata (Hoffm.) Schaer.: Forman & Sierk, 1970, MIN HERB
- Collema conglomeratum var. crassiusculum (Malme) Degel.: Forman & Sierk, 1970, MIN HERB
- Collema flaccidum (Ach.) Ach.: Degelius, 1974
- Collema furfuraceum (Arn.) Du Ruitz: Forman & Sierk, 1970, MIN HERB
- Collema nigrescens (Huds.) DC.: Forman & Sierk, 1970
- Collema subflaccidum Degel.: MIN HERB
- Collema subfurvum (Müll. Arg.) Degel.: Forman & Sierk, 1970
- Collema tenax (Sw.) Ach.: Forman & Sierk, 1970
- Conotrema urceolatum (Ach.) Tuck.: Forman & Sierk, 1970, MIN HERB
- Dermatocarpon miniatum (L.) Mann: Forman & Sierk, 1970
- Dermatocarpon tuckermanii (Rav.) Zahlbr.: Forman & Sierk, 1970
- Dermatocarpon weberi (Ach.) Mann: Forman & Sierk, 1970, MIN HERB
- Dimelaema oreina (Ach.) Norm.: Sheard, 1974
- Dimerella lutea (Dicks.) Trev.: Forman & Sierk, 1970
- Diploschistes actinostomus (Pers.) Zahlbr.: Forman & Sierk, 1970, MIN HERB
- I Graphis scripta (L.) Ach.: Forman & Sierk, 1970, MIN HERB
- Heterodermia hypoleuca (Mühl.) Trev.: Forman & Sierk, 1970, MIN HERB
- Heterodermia obscurata (Nyl.) Trev.: Forman & Sierk, 1970, MIN HERB
- Heterodermia squamulosa (Degel.) W. Culb.: Forman & Sierk, 1970
- Huilia albocaerulescens (Wulf.) Hertel: Forman & Sierk, 1970, Lawrey, 1980, MIN HERB
- Hydrothyria venosa Russ.: Forman & Sierk, 1970, MIN HERB

- I Hypogymnia physodes (L.) W. Wats.: Forman & Sierk, 1970,  
MIN HERB
- Lasallia papulosa (Ach.) Llano: Llano, 1950, Forman &  
Sierk, 1970, Lawrey, 1980, MIN HERB
- Lasallia pensylvanica (Hoffm.) Llano: Forman & Sierk,  
1970, MIN HERB
- Lecanora atra (Huds.) Ach.: Forman & Sierk, 1970
- Lecanora caesiorubella Ach. subsp. caesiorubella: Forman  
& Sierk, 1970
- Lecanora campestris (Schaer.) Hue: Forman & Sierk, 1970,  
Lawrey, 1980
- I Lecanora chlarotera Nyl.: Forman & Sierk, 1970, MIN HERB
- Lecanora cinereofusca Magn.: Forman & Sierk, 1970
- Lecanora conizaeoides Nyl. ex Cromb.: MIN HERB
- I Lecanora pallida (Schreb.) Rabenh.: Forman & Sierk, 1970
- Lecanora strobilina (Spreng.) Kieff.: Forman & Sierk,  
1970, MIN HERB
- Lecanora subfuscata Magn.: Forman & Sierk, 1970
- I Lecanora symmicta Ach.: Forman & Sierk, 1970, MIN HERB
- Lecidea berengeriana (Mass.) Nyl.: Forman & Sierk, 1970,  
MIN HERB
- Lecidea carnulenta (Tuck.) Fink: Forman & Sierk, 1970,  
MIN HERB
- Lecidea diminutula Magn.: Forman & Sierk, 1970
- Lecidea friesii Ach.: Forman & Sierk, 1970, MIN HERB
- Lecidea granulosa (Ehrh.) Ach.: Forman & Sierk, 1970, MIN  
HERB
- Lecidea helvola (Körb.) Oliv.: Forman & Sierk, 1970, MIN  
HERB
- Lecidea tessellata (Ach.) Flörke: Forman & Sierk, 1970,  
MIN HERB
- Lecidea uliginosa (Schrad.) Ach.: Forman & Sierk, 1970,  
MIN HERB
- Lecidea varians Ach.: Forman & Sierk, 1970
- S Lecidea vernalis (L.) Ach.: Forman & Sierk, 1970
- I-T Lepraria incana (L.) Ach.: Forman & Sierk, 1970
- Lepraria zonata Brodo: Lawrey, 1980
- Leptogium chloromelum (Sw. ex Ach.) Nyl.: Forman & Sierk,  
1970
- Leptogium cyanescens (Ach.) Körb.: Forman & Sierk, 1970,  
MIN HERB
- Leptogium lichenoides (L.) Zahlbr.: Forman & Sierk, 1970,  
MIN HERB
- S Lobaria pulmonaria (L.) Hoffm.: Forman & Sierk, 1970, MIN  
HERB
- Lobaria quercizans Michx.: Forman & Sierk, 1970, MIN HERB
- Micarea trisepta (Naeg.) Wetm.: Forman & Sierk, 1970
- Micarea violacea Hedl.: MIN HERB
- Micarea viridescens (Schrad.) Brodo: Forman & Sierk,  
1970, MIN HERB
- Nephroma bellum (Spreng.) Tuck.: Forman & Sierk, 1970,  
MIN HERB
- Nephroma helveticum Ach.: Forman & Sierk, 1970, MIN HERB
- S Ochrolechia rosella (Müll. Arg.) Vers.: Forman & Sierk,  
1970, MIN HERB

- Ochrolechia tartarea (L.) Mass.: Forman & Sierk, 1970  
Ochrolechia tuckermanii Vers.: MIN HERB  
Ochrolechia yasudae Vain.: Lawrey, 1980  
 ✕ Parmelia appalachensis W. Culb.: Forman & Sierk, 1970,  
 MIN HERB  
Parmelia aurulenta Tuck.: Forman & Sierk, 1970, MIN HERB  
Parmelia baltimorensis Gyeln.: Lawrey, 1980, Lawrey &  
 Hale, 1981  
Parmelia bolliana Müll. Arg.: Forman & Sierk, 1970  
 I Parmelia caperata (L.) Ach.: Forman & Sierk, 1970, MIN  
 HERB  
Parmelia conspersa (Ach.) Ach.: Forman & Sierk, 1970,  
 Lawrey & Hale, 1981, MIN HERB  
Parmelia crinita Ach.: Forman & Sierk, 1970, Lawrey,  
 1980, MIN HERB  
Parmelia cumberlancia (Gyeln.) Hale: Lawrey, 1980  
Parmelia dierythra Hale: Forman & Sierk, 1970  
Parmelia flaventior Stirt.: Forman & Sierk, 1970  
Parmelia galbina Ach.: Forman & Sierk, 1970, MIN HERB  
Parmelia hypoleucites Nyl.: Forman & Sierk, 1970  
Parmelia hypopsila Müll. Arg.: Forman & Sierk, 1970  
Parmelia margaritata Hue: Forman & Sierk, 1970  
Parmelia obsessa Ach.: MIN HERB  
Parmelia omphalodes (L.) Ach.: Forman & Sierk, 1970,  
 Lawrey, 1980, MIN HERB  
Parmelia plittii Gyeln.: MIN HERB  
 S Parmelia reticulata Tayl.: Forman & Sierk, 1970  
 I Parmelia rudecta Ach.: Forman & Sierk, 1970, Lawrey,  
 1980, MIN HERB  
 I Parmelia saxatilis (L.) Ach.: Forman & Sierk, 1970  
 S ✕ Parmelia squarrosa Hale: MIN HERB  
Parmelia stuppea Tayl.: MIN HERB  
Parmelia stygia (L.) Ach.: Forman & Sierk, 1970, MIN HERB  
 S Parmelia subaurifera Nyl.: Forman & Sierk, 1970  
Parmelia subisidiosa (Müll. Arg.) Dodge: Forman & Sierk,  
 1970, MIN HERB  
 I Parmelia subrudecta Nyl.: Forman & Sierk, 1970, MIN HERB  
 I-T Parmelia sulcata Tayl.: Forman & Sierk, 1970, MIN HERB  
Parmelia taractica Kremp.: Forman & Sierk, 1970, MIN HERB  
Parmelia tasmanica Hook. f. & Tayl.: Forman & Sierk, 1970  
 ✕ Parmelia virginica Hale in Hale & Kurok.: Hale &  
 Kurokawa, 1964  
Parmeliella triptophylla (Ach.) Müll. Arg.: Forman &  
 Sierk, 1970  
 I Parmeliopsis aleurites (Ach.) Nyl.: Forman & Sierk, 1970,  
 MIN HERB  
Peltigera aphthosa (L.) Willd.: Thomson, 1950  
Peltigera canina (L.) Willd.: Thomson, 1950, Forman &  
 Sierk, 1970, MIN HERB  
Peltigera canina var. spuria (Ach.) Schaer.: Forman &  
 Sierk, 1970  
Peltigera canina var. ulorrhiza (Flörke) Schaer.: Forman  
 & Sierk, 1970  
Peltigera evansiana Gyeln.: Forman & Sierk, 1970  
Peltigera polydactyla (Neck.) Hoffm.: Forman & Sierk,

1970

- I Pertusaria amara (Ach.) Nyl.: Forman & Sierk, 1970  
Pertusaria globularis (Ach.) Tuck.: Forman & Sierk, 1970  
Pertusaria hypothamnolica Dibb.: Dibben, 1980  
Pertusaria neoscotica Lamb: Dibben, 1980  
Pertusaria macounii (Lamb) Dibb.: Forman & Sierk, 1970  
I Pertusaria multipuncta (Turn.) Nyl.: Forman & Sierk, 1970  
Pertusaria plittiana Erichs.: Forman & Sierk, 1970  
Pertusaria pustulata (Ach.) Duby: Forman & Sierk, 1970,  
Dibben, 1980  
Pertusaria rubefacta Erichs.: Dibben, 1980  
Pertusaria rubescens Erichs.: Forman & Sierk, 1970  
\* Pertusaria shenandoensis Hale & Dibb.: Dibben, 1980  
Pertusaria subpertusa Brodo: Dibben, 1980  
Pertusaria trachythallina Erichs.: Forman & Sierk, 1970,  
Dibben, 1980  
Pertusaria velata (Turn.) Nyl.: Forman & Sierk, 1970  
Pertusaria xanthodes Müll. Arg.: Forman & Sierk, 1970  
I Phaeophyscia orbicularis (Neck.) Moberg: Thomson, 1963,  
Forman & Sierk, 1970, MIN HERB  
Phaeophyscia rubropulchra (Degel.) Essl.: Forman & Sierk,  
1970  
I Physcia aipolia (Ehrh.) Hampe: Forman & Sierk, 1970, MIN  
HERB  
Physcia americana Merr. in Evans & Meyrow.: Thomson,  
1963, Forman & Sierk, 1970, MIN HERB  
Physcia callosa Nyl.: Forman & Sierk, 1970  
I Physcia milligrana Degel.: Forman & Sierk, 1970, MIN HERB  
I Physcia stellaris (L.) Nyl.: Thomson, 1963, Forman &  
Sierk, 1970, MIN HERB  
Physcia subtilis Degel.: Thomson, 1963, Forman & Sierk,  
1970, MIN HERB  
Placynthium nigrum (Huds.) S. Gray: Forman & Sierk, 1970  
Plagiocarpa hyalospora (Nyl.) R. Harris: MIN HERB  
Platismatia tuckermanii (Oakes) W. Culb. & C. Culb.:  
Culberson & Culberson, 1968, Forman & Sierk, 1970,  
MIN HERB  
Pseudevernia consocians (Vain.) Hale & W. Culb.: Forman &  
Sierk, 1970, MIN HERB  
I Pyrenula nitida (Weig.) Ach.: Forman & Sierk, 1970  
Pyxine soorediata (Ach.) Mont.: Forman & Sierk, 1970, MIN  
HERB  
S Ramalina americana Hale: Forman & Sierk, 1970  
Ramalina intermedia (Del. ex Nyl.) Nyl.: Forman & Sierk,  
1970, Lawrey, 1980, MIN HERB  
Ramalina sinensis Jatta: Forman & Sierk, 1970  
Rhizocarpon cinereovirens (Müll. Arg.) Vain.: Forman &  
Sierk, 1970  
Rhizocarpon concentricum (Dav.) Beltr.: Forman & Sierk,  
1970, MIN HERB  
Rhizocarpon geographicum (L.) DC.: Forman & Sierk, 1970,  
MIN HERB  
Rhizocarpon intermedium Degel.: Forman & Sierk, 1970, MIN  
HERB  
Rhizoplaca chrysoleuca (Smith) Zopf: Forman & Sierk,

- 1970, MIN HERB  
Rinodina ascociscana Tuck.: Forman & Sierk, 1970  
Stereocaulon saxatile Magn.: Forman & Sierk, 1970  
Sticta fuliginosa (Dicks.) Ach.: Forman & Sierk, 1970  
Sticta weigeli (Insert ex Ach.) Vain.: Forman & Sierk,  
1970, MIN HERB  
Trapelia coarctata (Turn. ex Sm.) Choisy: Forman & Sierk,  
1970, MIN HERB  
Umbilicaria caroliniana Tuck.: Forman & Sierk, 1970  
Umbilicaria mammulata (Ach.) Tuck.: Llano, 1950, Forman &  
Sierk, 1970, MIN HERB  
Umbilicaria muehlenbergii (Ach.) Tuck.: Llano, 1950,  
Forman & Sierk, 1970, MIN HERB  
Umbilicaria vellea (L.) Ach.: Forman & Sierk, 1970, MIN  
HERB  
Usnea herrei Hale: Forman & Sierk, 1970, Lawrey, 1980,  
MIN HERB  
S-I Usnea subfloridana Stirt.: Forman & Sierk, 1970  
Verrucaria aethiobola Wahlenb. ex Ach.: Forman & Sierk,  
1970, MIN HERB

# SHEN REFERENCES

- Culberson, W. L. 1965. Cetraria chicitae, a new and widely distributed lichen species. *Bryologist* 68: 95-99.
- Culberson, W. L. & C. F. Culberson. 1968. The lichen genera Cetrelia and Platismatia (Parmeliaceae). *Contrib. U. S. Nat. Herbarium* 34 (7):449-558.
- Degelius, G. 1974. The lichen genus Collema with special reference to the extra-European species. *Symb. Bot. Ups.* 20(2):1-215.
- Dibben, M. J. 1980. The chemosystematics of the lichen genus Pertusaria in North America north of Mexico. *Milwaukee Public Museum, Biol.* 5:1-162.
- Forman, R. T. & H. A. Sierk. 1970. Bryophytes and lichens of the Shenandoah National Park, Virginia, collected on the 1966 foray of the American Bryological Society. *Bryologist* 73:82-92.
- Hale, M. E. Jr. and S. Kurokawa. 1964. Studies on Parmelia subgenus Parmelia. *Contrib. U. S. Herb.* 36 (4): 121-191.
- Lawrey, J. D. 1980. Correlations between lichen secondary chemistry and grazing activity by Pallifera varia. *Bryologist* 83:328-334.
- Lawrey, J. D. & M. E. Hale. 1981. Retrospective study of lichen lead accumulation in the northeastern United States. *Bryologist*. 84:449-456.
- Llano, G. A. 1950. A monograph of the lichen family Umbilicariaceae in the western hemisphere. *Off. Naval Res., Washington, D. C. (Navexos P-831)*:1-281.
- Sheard, J. W. 1974. The genus Dimelaena in North America north of Mexico. *Bryologist* 77:128-141 (including simplified locality list provided in mimeograph form as supplement).
- Thomson, J. W. 1950. The species of Peltigera of North America north of Mexico. *Amer. Midl. Nat.* 44:1-68.
- Thomson, J. W. 1963. The lichen genus Physcia in North America. *Nova Hedwigia, Beih.* 7, viii + 172.



THRB - THEODORE ROOSEVELT NATIONAL PARK

Total number of species = 208 : Completely known

- Acarospora americana Magn.: MIN HERB  
Acarospora cinereoalba (Fink) Magn.: MIN HERB  
Acarospora fuscata (Schrad.) Arn.: MIN HERB  
Acarospora reagens Zahlbr.: MIN HERB  
Acarospora schleicheri (Ach.) Mass.: MIN HERB  
Agrestia hispida (Meresch.) Hale & W. Culb.: MIN HERB  
Arthonia intexta Almqu.: MIN HERB  
Arthonia lapidicola (Tayl.) Branth & Rostr.: MIN HERB  
Aspicilia alphoplaca (Wahlenb. ex Ach.) Poelt & Leuck.:  
 MIN HERB  
Aspicilia caesiocinerea (Nyl. ex Malbr.) Arn.: MIN HERB  
Aspicilia cinerea (L.) Krb.: MIN HERB  
Aspicilia contorta (Hoffm.) Kremp.: MIN HERB  
Aspicilia reptans (Looman) ined.: MIN HERB  
Bacidia bacillifera (Nyl.) Fink: MIN HERB  
Bacidia bagliettoana (Mass. & De Not.) Jatta: MIN HERB  
Bacidia populorum (Mass.) Trev.: MIN HERB  
Bacidia sabuletorum (Schreb.) Lett.: MIN HERB  
 I Bryoria capillaris (Ach.) Brodo & Hawksw.: MIN HERB  
Bryoria fuscescens (Gyeln.) Brodo & Hawksw.: MIN HERB  
 T Buellia elegans Poelt: MIN HERB  
Buellia punctata (Hoffm.) Mass.: MIN HERB  
Buellia retrovertens Tuck.: MIN HERB  
Buellia venusta (Krb.) Lett.: MIN HERB  
Buellia zahlbruckneri J. Stein.: MIN HERB  
 S-I Caloplaca atroalba (Tuck.) Zahlbr.: MIN HERB  
Caloplaca cerina (Ehrh.) Th. Fr.: MIN HERB  
Caloplaca chrysophthalma Degel.: MIN HERB  
Caloplaca citrina (Hoffm.) Th. Fr.: MIN HERB  
Caloplaca decipiens (Arn.) J. Stein.: MIN HERB  
Caloplaca feracissima Magn.: MIN HERB  
 S Caloplaca flavorubescens (Huds.) Laund.: MIN HERB  
 I Caloplaca holocarpa (Hoffm.) Wade: MIN HERB  
Caloplaca lobulata (Flrke) Hellb.: MIN HERB  
Caloplaca microphyllina (Tuck.) Hasse: MIN HERB  
Caloplaca sarcopisoides (Krb.) Zahlbr.: MIN HERB  
Caloplaca saxicola (Hoffm.) Nordin: MIN HERB  
Caloplaca squamosa B. de Lesd.: MIN HERB  
Caloplaca stillicidiorum (Vahl) Lynge: MIN HERB  
Caloplaca tominii Savicz: MIN HERB  
Caloplaca trachyphylla (Tuck.) Zahlbr.: MIN HERB  
Caloplaca ulmorum (Fink) Fink: MIN HERB  
 S-I Candelaria concolor (Dicks.) B. Stein: MIN HERB  
Candelariella aurella (Hoffm.) Zahlbr.: MIN HERB  
Candelariella deflexa (Nyl.) Zahlbr.: MIN HERB  
Candelariella efflorescens Harris & Buck: MIN HERB  
Candelariella subdeflexa (Nyl.) Lett.: MIN HERB  
 I Candelariella vitellina (Ehrh.) Mll. Arg.: MIN HERB  
 S-I Candelariella xanthostigma (Ach.) Lett.: MIN HERB  
Catillaria nigroclavata (Nyl.) Schul.: MIN HERB



- I Cetraria halei W. Culb. & C. Culb.: MIN HERB  
 I Cetraria pinastri (Scop.) S. Gray: MIN HERB  
 I Cladonia acuminata (Ach.) Norrl.: MIN HERB  
 I Cladonia bacillaris (Ach.) Nyl.: MIN HERB  
 I Cladonia chlorophaea (Flörke ex Somm.) Spreng.: MIN HERB  
 I Cladonia coniocraea (Flörke) Spreng.: MIN HERB  
 I Cladonia conista (Ach.) Robb.: MIN HERB  
 I Cladonia cornuta (L.) Hoffm.: MIN HERB  
 I Cladonia cristatella Tuck.: MIN HERB  
 S-I Cladonia decorticata (Flörke) Spreng.: MIN HERB  
 S-I Cladonia fimbriata (L.) Fr.: MIN HERB  
 S-I Cladonia gracilis (L.) Willd.: MIN HERB  
 S-I Cladonia mitis Sandst.: MIN HERB  
 S-I Cladonia pyxidata (L.) Hoffm.: MIN HERB  
 S-I Cladonia rangiferina Hoffm.: MIN HERB  
 S-I Cladonia robbinsii Evans: MIN HERB  
 S-I Cladonia subulata (L.) Wigg.: MIN HERB  
 S-I Cladonia symphycarpa (Ach.) Fr.: MIN HERB  
 S-I Collema coccophorum Tuck.: Sierk, 1964, MIN HERB  
 S-I Collema conglomeratum Hoffm.: MIN HERB  
 S-I Collema furfuraceum (Arn.) Du Reitz: MIN HERB  
 S-I Collema tenax (Sw.) Ach.: MIN HERB  
 S-I Collema tuniforme (Ach.) Ach.: MIN HERB  
 S-I Coniocybe pallida (Pers.) Fr.: MIN HERB  
 S-I Cyphelium notarisii (Tul.) Blomb. & Forss.: MIN HERB  
 S-I Dermatocarpon lachneum (Ach.) A. L. Sm.: MIN HERB  
 S-I Dermatocarpon miniatum (L.) Mann: MIN HERB  
 S-I Dermatocarpon moulinii (Mont.) Zahlbr.: MIN HERB  
 S-I Dermatocarpon plumbeum (B. de Lesd.) Zahlbr.: MIN HERB  
 S-I Dermatocarpon tuckermanii (Rav.) Zahlbr.: MIN HERB  
 S-I Dimelaena oreina (Ach.) Norm.: Sheard, 1974, MIN HERB  
 S-I Diploschistes actinostomus (Pers.) Zahlbr.: MIN HERB  
 S-I Diploschistes scruposus (Schreb.) Norm.: MIN HERB  
 S-I Endocarpon pusillum Hedw.: MIN HERB  
 I Evernia mesomorpha Nyl.: MIN HERB  
 I Fulgensia bracteata (Hoffm.) Räs.: MIN HERB  
 I Fulgensia fulgens (Sw.) Elenk.: MIN HERB  
 I Heppia lutosa (Ach.) Nyl.: MIN HERB  
 I Hyperphyscia adglutinata (Flörke) Mayrh. & Poelt: MIN HERB  
 I Hypogymnia physodes (L.) W. Wats.: MIN HERB  
 S Hypogymnia tubulosa (Schaer.) Hav.: MIN HERB  
 S Lecania erysibe (Ach.) Mudd: MIN HERB  
 S Lecania fuscella (Schaer.) Krb.: MIN HERB  
 I Lecanora chlarotera Nyl.: MIN HERB  
 T Lecanora dispersa (Pers.) Somm.: MIN HERB  
 T Lecanora frustulosa (Dicks.) Ach.: MIN HERB  
 T Lecanora garovaglii (Krb.) Zahlbr.: MIN HERB  
 T Lecanora hageni (Ach.) Ach.: MIN HERB  
 T Lecanora impudens Degel.: MIN HERB  
 T Lecanora muralis (Schreb.) Rabenh.: MIN HERB  
 T Lecanora piniperda Krb.: MIN HERB  
 T Lecanora rupicola (L.) Zahlbr.: MIN HERB  
 I Lecanora saligna (Schr.) Zahlbr.: MIN HERB  
 I Lecidea atrobrunnea (Ram.) Schaer.: MIN HERB

- Lecidea berengeriana (Mass.) Nyl.: MIN HERB  
Lecidea cerebriformis (W. Web.) ined.: MIN HERB  
Lecidea decipiens (Hedw.) Ach.: MIN HERB  
Lecidea globifera Ach.: MIN HERB  
Lecidea granulosa (Ehrh.) Ach.: MIN HERB  
Lecidea luridella Tuck.: MIN HERB  
Lecidea plana Lahm ex Körb.: MIN HERB  
Lecidea russellii Tuck.: MIN HERB  
Lecidea tessellata (Ach.) Flörke: MIN HERB  
Lecidea uliginosa (Schrad.) Ach.: MIN HERB  
Lecidea xanthococca Somm.: MIN HERB  
Lecidella carpathica Körb.: MIN HERB  
Lecidella euphorea (Flörke) Hert.: MIN HERB  
Lecidella inamoena (Müll. Arg.) Hert.: MIN HERB  
Lecidella spitsbergensis (Lyng.) Hert. & Leuck.: MIN HERB  
Lecidella stigmata (Ach.) Hert. & Leuck.: MIN HERB  
Lepraria finkii (B. de Lesd. in Hue) ined.: MIN HERB  
Leptogium amphineum Nyl.: Sierk, 1964  
Leptogium minutissimum (Flörke) Fr.: MIN HERB  
Leptogium tenuissimum (Dicks.) Fr.: MIN HERB  
Micarea globularis (Nyl.) Hedl.: MIN HERB  
Mycocalicium parietinum (Ach. ex Schaer.) Hawksw.: MIN  
 HERB  
Ochrolechia arborea (Ljubitz.) Almb.: MIN HERB  
Pachyospora mutabilis (Ach.) Mass.: MIN HERB  
 I Parmelia albertana Ahti: MIN HERB  
Parmelia caperata (L.) Ach.: MIN HERB  
Parmelia chlorochroa Tuck.: MIN HERB  
Parmelia conspersa (Ach.) Ach.: MIN HERB  
Parmelia flaventior Stirt.: MIN HERB  
Parmelia lineola Berry: MIN HERB  
Parmelia mexicana Gyeln.: MIN HERB  
Parmelia plittii Gyeln.: MIN HERB  
Parmelia soledica Nyl.: MIN HERB  
Parmelia solediosa Almb.: MIN HERB  
 I-T Parmelia subargentifera Nyl.: MIN HERB  
 S Parmelia subaurifera Nyl.: MIN HERB  
Parmelia subolivacea Nyl. in Hasse: Ahti, 1966, MIN HERB  
Parmelia substygia Räs.: MIN HERB  
 I-T Parmelia sulcata Tayl.: MIN HERB  
Parmelia taractica Kremp.: MIN HERB  
Peccania subnigrum (B. de Lesd.) ined.: MIN HERB  
Peltigera canina (L.) Willd.: MIN HERB  
Peltigera canina var. praetextata (Flörke in Somm.) Hue:  
 MIN HERB  
Peltigera canina var. rufescens (Weiss) Mudd: MIN HERB  
Peltigera neckeri Müll. Arg.: MIN HERB  
Peltula bolanderi (Ach.) Wetm.: MIN HERB  
Peltula polyspora (Tuck.) Wetm.: MIN HERB  
Pertusaria saximontana Wetm.: MIN HERB  
Phaeophyscia cernohorskyi (Nadv.) Essl.: MIN HERB  
Phaeophyscia chloantha (Ach.) Moberg: MIN HERB  
Phaeophyscia constipata (Norrl. et Nyl.) Moberg: MIN HERB  
Phaeophyscia hirsuta (Meresch.) Essl.: MIN HERB  
Phaeophyscia kairamoi (Vain.) Moberg: MIN HERB

- I-T Phaeophyscia melanchra (Hue) ined.: MIN HERB  
Phaeophyscia nigricans (Flörke) Moberg: MIN HERB  
Phaeophyscia pusilloides (Zahlbr.) Essl.: MIN HERB  
Phaeorrhiza sareptana (Tomin) Mayrh. & Poelt: MIN HERB  
 I Physcia adscendens (Th. Fr.) Oliv.: MIN HERB  
 I Physcia aipolia (Ehrh.) Hampe: MIN HERB  
Physcia caesia (Hoffm.) Hampe: MIN HERB  
Physcia dimidiata (Arn.) Nyl.: Esslinger, 1979  
 T Physcia dubia (Hoffm.) Lett.: MIN HERB  
 I Physcia millegrana Degel.: MIN HERB  
 I Physcia stellaris (L.) Nyl.: MIN HERB  
Physcia subtilis Degel.: MIN HERB  
 I Physconia detersa (Nyl.) Poelt: MIN HERB  
Physconia muscigena (Ach.) Poelt: MIN HERB  
Placynthium nigrum (Huds.) S. Gray: MIN HERB  
Problastenia rupestris (Scop.) J. Stein.: MIN HERB  
Psorotichia minuta Magn.: MIN HERB  
Ramalina sinensis Jatta: MIN HERB  
Rhizocarpon disporum (Naeg. ex Hepp) Müll. Arg.: MIN HERB  
Rhizoplaca chrysoleuca (Smith) Zopf: MIN HERB  
Rhizoplaca melanophthalma (Ram.) Leuck. & Poelt: MIN HERB  
Rinodina bischoffii (Hepp) Mass.: MIN HERB  
Rinodina calcigena (Th. Fr.) Lynge: MIN HERB  
Rinodina colobina (Ach.) Th. Fr.: MIN HERB  
Rinodina lobulata Sheard ined.: MIN HERB  
Rinodina mucronatula Magn.: MIN HERB  
Rinodina pyrina (Ach.) Arn.: MIN HERB  
Rinodina riparia Sheard ined.: MIN HERB  
Rinodina rivula Sheard ined.: MIN HERB  
Rinodina zwachiana (Kremp.) Körb.: MIN HERB  
Sarcogyne clavus (Ram.) Kremp.: MIN HERB  
Sarcogyne regularis Körb.: MIN HERB  
Sarcogyne simplex Magn.: MIN HERB  
Squamarina lentigera (G. Web.) Poelt: MIN HERB  
Staurothele clopima (Wahlenb. ex Ach.) Th. Fr.: MIN HERB  
Staurothele monicae (Zahlbr.) ined.: MIN HERB  
Staurothele rufa (Mass.) Zsch.: MIN HERB  
Thyrea nigritella Lett.: MIN HERB  
Toninia caeruleonigricans (Lightf.) Th. Fr.: MIN HERB  
Toninia tristis (Th. Fr.) Th. Fr.: MIN HERB  
Umbilicaria muehlenbergii (Ach.) Tuck.: MIN HERB  
Usnea fulvovirens (Räs.) Räs.: MIN HERB  
 S-I Usnea hirta (L.) Wigg.: MIN HERB  
 S-I Usnea subfloridana Stirt.: MIN HERB  
Verrucaria muralis Ach.: MIN HERB  
Verrucaria virens Nyl.: MIN HERB  
Xanthoria elegans (Link) Th. Fr.: MIN HERB  
 S-I Xanthoria fallax (Hepp) Arn.: MIN HERB  
 I Xanthoria polycarpa (Ehrh.) Oliv.: MIN HERB  
Xylographa abietina (Pers.) Zahlbr.: MIN HERB

# THRB REFERENCES

- Ahti, T. 1966. *Parmelia olivacea* and the allied non-isidiate and non-sorediate corticolous lichens in the Northern Hemisphere. *Acta Bot. Fenn.* 70:1-68.
- Esslinger, T. L. 1979. Studies in the lichen family Physciaceae. V. Two species of *Physcia* new to North America. *Mycotaxon* 10:210-212.
- Sheard, J. W. 1974. The genus *Dimelaena* in North America north of Mexico. *Bryologist* 77:128-141 (including simplified locality list provided in mimeograph form as supplement).
- Sierk, H. A. 1964. The genus *Leptogium* in North America north of Mexico. *Bryologist* 67:245-317.

VOYA - VOYAGEURS NATIONAL PARK

Total number of species = 404 : Completely known

Note: Specimens of all accepted names are also in MIN HERB

- Acarospora americana Magn.: Wetmore, 1981  
Acarospora badiofusca (Nyl.) Th. Fr.: Wetmore, 1981  
Acarospora fuscata Arn.: Wetmore, 1981  
Anaptychia palmulata (Michx.) Vain.: Wetmore, 1981  
Arthonia caesia (Kürb.) Kürb.: Wetmore, 1981  
Arthonia didyma Kürb.: Wetmore, 1981  
Arthonia dispersa (Schrad.) Nyl.: Fink, 1903, Wetmore, 1981  
Arthonia fuliginosa (Turn. & Borr.) Flot.: Wetmore, 1981  
Arthonia lurida Ach.: Wetmore, 1981  
Arthonia patellulata Nyl.: Wetmore, 1981  
I Arthonia radiata (Pers.) Ach.: Wetmore, 1981  
Arthopyrenia cinereopruinosa (Schaer.) Mass.: Wetmore, 1981  
Arthopyrenia faginea (Schaer.) Swinsc.: Wetmore, 1981  
Arthopyrenia padi Rabenh.: Wetmore, 1981  
Arthothelium ruanideum Rehm in Rabenh.: Wetmore, 1981  
Bacidia accedens (Arn.) Lett.: Wetmore, 1981  
Bacidia atrogrisea (Del. ex Hepp) Kürb.: Wetmore, 1981  
I Bacidia chlorococca (Graewe ex Stenh.) Lett.: Wetmore, 1981  
Bacidia epixanthoides (Nyl.) Lett.: Wetmore, 1981  
Bacidia fuscorubella (Hoffm.) Bausch: Wetmore, 1981  
Bacidia inundata (Fr.) Kürb.: Wetmore, 1981  
I Bacidia rubella (Hoffm.) Mass.: Wetmore, 1981  
Bacidia sabuletorum (Schreb.) Lett.: Wetmore, 1981  
Bacidia schweinitzii (Fr. ex Michen. in Darl.) Schneid.: Wetmore, 1981  
Bacidia sphaeroides (Dicks.) Zahlbr.: Wetmore, 1981  
Bacidia suffusa (Fr.) Schneid.: Wetmore, 1981  
Bacidia umbrina (Ach.) Bausch.: Wetmore, 1981  
Baeomyces carneus (Retz.) Flörke: Wetmore, 1981  
Baeomyces rufus (Huds.) Rebent.: Wetmore, 1981  
Biatorella microhaema Norm. in Th. Fr.: Wetmore, 1981  
Biatorella moriformis (Ach.) Th. Fr.: Wetmore, 1981  
Biatorella resinae (Fr.) Th. Fr.: Wetmore, 1981  
S Bryoria furcellata (Fr.) Brodo & Hawksw.: Wetmore, 1981  
S Bryoria trichodes (Michx.) Brodo & Hawksw.: Wetmore, 1981  
I Buellia alboatra (Hoffm.) Branth & Rostr.: Fink, 1903, Wetmore, 1981  
Buellia arnoldii Serv. & Nadv.: Wetmore, 1981  
Buellia dialyta (Nyl.) Tuck.: Fink, 1903, Wetmore, 1981  
Buellia disciformis (Fr.) Mudd: Wetmore, 1981  
T Buellia punctata (Hoffm.) Mass.: Wetmore, 1981  
Buellia schaeferi De Not.: Imshaug, 1951, Wetmore, 1981  
I Buellia stillingiana J. Stein.: Wetmore, 1981  
Calicium abietinum Pers.: Wetmore, 1981  
Calicium glaucellum Ach.: Wetmore, 1981

- Calicium parvum Tibell: Wetmore, 1981  
Calicium salicinum Pers.: Wetmore, 1981  
Calicium trabinellum (Ach.) Ach.: Wetmore, 1981  
S-I Caloplaca arenaria (Pers.) Müll. Arg.: Wetmore, 1981  
Caloplaca cerina (Ehrh.) Th. Fr.: Wetmore, 1981  
Caloplaca chrysophthalma Degel.: Wetmore, 1981  
Caloplaca cinnabarina (Ach.) Zahlbr.: Wetmore, 1981  
Caloplaca citrina (Hoffm.) Th. Fr.: Wetmore, 1981  
Caloplaca feracissima Magn.: Wetmore, 1981  
Caloplaca flavovirescens (Wulf.) DT & Sarnth.: Wetmore, 1981  
I Caloplaca holocarpa (Hoffm.) Wade: Wetmore, 1981  
Caloplaca pollinii (Mass.) Jata: Wetmore, 1981  
Caloplaca saxicola (Hoffm.) Nordin: Fink, 1903, Wetmore, 1981  
Caloplaca sideritis (Tuck.) Zahlbr.: Wetmore, 1981  
Caloplaca ulmorum (Fink) Fink: Wetmore, 1981  
I-T Caloplaca vitellinula (Nyl.) Oliv.: Wetmore, 1981  
S-I Candelaria concolor (Dicks.) B. Stein: Wetmore, 1981  
Candelaria fibrosa (Fr.) Müll. Arg.: Wetmore, 1981  
Candelariella efflorescens Harris & Buck: Wetmore, 1981  
I Candelariella vitellina (Ehrh.) Müll. Arg.: Wetmore, 1981  
S-I Candelariella xanthostigma (Ach.) Lett.: Wetmore, 1981  
Catillaria atropurpurea (Schaer.) Th. Fr.: Wetmore, 1981  
Cetraria aurescens Tuck.: Wetmore, 1981  
Cetraria fendleri (Nyl.) Tuck.: Wetmore, 1981  
Cetraria halei W. Culb. & C. Culb.: Wetmore, 1981  
I Cetraria orbata (Nyl.) Fink: Wetmore, 1981  
I Cetraria pinastri (Scop.) S. Gray: Wetmore, 1981  
I Cetraria sepincola (Ehrh.) Ach.: Wetmore, 1981  
[Cetrelia cetrarioides (Del. ex Duby) W. Culb. & C. Culb.:  
Berry, 1941, misident.]  
Cetrelia chicitae (W. Culb.) W. Culb. & C. Culb.: Wetmore, 1981  
Cetrelia olivelorum (Nyl.) W. Culb. & C. Culb.: Wetmore, 1981  
Chaenotheca brunneola (Ach.) Müll. Arg.: Wetmore, 1981  
Chaenotheca chrysocephala (Turn.) Th. Fr.: Wetmore, 1981  
I Chaenotheca ferruginea (Turn. & Borr.) Mig.: Wetmore, 1981  
Chaenotheca hispidula (Ach.) Zahlbr.: Wetmore, 1981  
Chaenotheca laevigata Nadv.: Wetmore, 1981  
Chaenotheca stemonea (Ach.) Müll. Arg.: Wetmore, 1981  
Chaenotheca trichialis (Ach.) Th. Fr.: Wetmore, 1981  
Chaenotheca xyloxena Nadv.: Wetmore, 1981  
Chaenothecopsis consociata (Nadv.) Schmidt.: Wetmore, 1981  
Chaenothecopsis debilis (Turn. & Borr. in Schaer.)  
Tibell: Wetmore, 1981  
Chaenothecopsis lignicola (Nadv.) Schmidt.: Wetmore, 1981  
Chaenothecopsis rubescens Vain.: Fink, 1903, Wetmore, 1981  
Chaenothecopsis savonica (Räs.) Tibell: Wetmore, 1981  
Chaenothecopsis subpusilla (Vain.) Tibell: Wetmore, 1981  
Chaenothecopsis viridireagens (Nadv.) Schmidt: Wetmore, 1981



1981

Cladonia acuminata (Ach.) Norrl.: Wetmore, 1981  
Cladonia amaurocraea (Flörke) Schaer.: Wetmore, 1981  
Cladonia bacillaris Nyl.: Wetmore, 1981  
Cladonia botrytes (Hag.) Willd.: Wetmore, 1981  
Cladonia caespiticia (Pers.) Flörke: Wetmore, 1981  
Cladonia cariosa (Ach.) Spreng.: Wetmore, 1981  
Cladonia cenotea (Ach.) Schaer.: Wetmore, 1981  
Cladonia chlorophaea (Flörke ex Somm.) Spreng.: Wetmore,

1981

I Cladonia coccifera (L.) Willd.: Wetmore, 1981  
Cladonia coniocraea (Flörke) Spreng.: Wetmore, 1981  
Cladonia conista (Nyl.) Robb. in Allen: Wetmore, 1981  
Cladonia cornuta (L.) Hoffm.: Wetmore, 1981  
Cladonia crispata (Ach.) Flot.: Wetmore, 1981  
I Cladonia cristatella Tuck.: Wetmore, 1981  
Cladonia cryptochlorophaea Asah.: Wetmore, 1981  
Cladonia cyanipes (Fr.) Flörke: Wetmore, 1981  
Cladonia cylindrica (Evans) Evans: Wetmore, 1981  
Cladonia decorticata (Flörke) Spreng.: Wetmore, 1981  
Cladonia deformis (L.) Hoffm.: Wetmore, 1981  
Cladonia digitata (L.) Hoffm.: Wetmore, 1981  
S-I Cladonia fimbriata (L.) Fr.: Wetmore, 1981  
Cladonia floerkeana (Fr.) Flörke: Wetmore, 1981  
Cladonia furcata (Huds.) Schrad.: Wetmore, 1981  
Cladonia gracilis (L.) Willd.: Wetmore, 1981  
Cladonia grayi Merr. ex Sandst.: Wetmore, 1981  
Cladonia merochlorophaea Asah.: Wetmore, 1981  
Cladonia mitis Sandst.: Wetmore, 1981  
Cladonia multififormis Merr.: Wetmore, 1981  
Cladonia parasitica (Hoffm.) Hoffm.: Wetmore, 1981  
Cladonia phyllophora Hoffm.: Wetmore, 1981  
Cladonia pityrea (Flörke) Fr.: Wetmore, 1981  
Cladonia pleurota (Flörke) Schaer.: Wetmore, 1981  
Cladonia pseudorangiformis Asah.: Wetmore, 1981  
Cladonia pyxidata (L.) Hoffm.: Wetmore, 1981  
Cladonia rangiferina (L.) Wigg.: Wetmore, 1981  
Cladonia rei Schaer.: Wetmore, 1981  
Cladonia robbinsii Evans: Wetmore, 1981  
Cladonia scabriuscula (Del. ex Duby) Nyl.: Wetmore, 1981  
Cladonia squamosa (Scop.) Hoffm.: Wetmore, 1981  
Cladonia stellaris (Opiz) Pouz. & Vezda: Wetmore, 1981  
Cladonia subulata (L.) Wigg.: Wetmore, 1981  
Cladonia sulphurina (Michx.) Fr.: Wetmore, 1981  
Cladonia symphyocarpa (Ach.) Fr.: Wetmore, 1981  
Cladonia turgida (Ehrh.) Hoffm.: Wetmore, 1981  
Cladonia uncialis (L.) Wigg.: Wetmore, 1981  
Cladonia verticillata (Hoffm.) Schaer.: Wetmore, 1981  
Collema conglomeratum Hoffm.: Wetmore, 1981  
Collema flaccidum (Ach.) Ach.: Wetmore, 1981  
Collema nigrescens (Huds.) DC.: Wetmore, 1981  
Collema pulcellum Ach.: Wetmore, 1981  
Collema subflaccidum Degel.: Wetmore, 1981  
Collema tuniforme (Ach.) Ach.: Wetmore, 1981  
Coniocybe furfuracea (L.) Ach.: Wetmore, 1981

- Coniocybe pallida (Pers.) Fr.: Wetmore, 1981  
Cyphelium lucidum (Th. Fr.) Th. Fr.: Wetmore, 1981  
Cyphelium tigillare (Ach.) Ach.: Wetmore, 1981  
Dermatocarpon miniatum (L.) Mann: Wetmore, 1981  
Dermatocarpon tuckermanii (Rav.) Zahlbr.: Fink, 1903,  
Wetmore, 1981  
Dermatocarpon weberi (Ach.) Mann: Wetmore, 1981  
Dimelaena oreina (Ach.) Norm.: Wetmore, 1981  
S Dimerella diluta (Pers.) Trev.: Wetmore, 1981  
Dimerella lutea (Dicks.) Rev.: Wetmore, 1981  
Diploschistes scruposus (Schreb.) Norm.: Wetmore, 1981  
Eopyrenula leucoplaca (Wallr.) Harris: Wetmore, 1981  
Ephebe lanata (L.) Vain.: Wetmore, 1981  
Ephebe ocellata Henss.: Wetmore, 1981  
I Evernia mesomorpha Nyl.: Wetmore, 1981  
I Graphis scripta (L.) Ach.: Wetmore, 1981  
Gyalecta truncigena (Ach.) Hepp: Wetmore, 1981  
Haematomma elatinum (Ach.) Mass.: Wetmore, 1981  
Heterodermia hypoleuca (Muhl.) Trev.: Wetmore, 1981  
Heterodermia speciosa (Wulf.) Trev.: Wetmore, 1981  
Huilia macrocarpa (DC.) Hertel: Wetmore, 1981  
Hymenelia lacustris With.: Wetmore, 1981  
Hypogymnia physodes (L.) Nyl.: Berry, 1941, Wetmore, 1981  
Icmadophila ericetorum (L.) Zahlbr.: Wetmore, 1981  
Lasallia papulosa (Ach.) Llano: Wetmore, 1981  
Lecanactis chloroconia Tuck.: Wetmore, 1981  
Lecania dimera (Nyl.) Th. Fr.: Wetmore, 1981  
I Lecanora allophana Nyl.: Wetmore, 1981  
Lecanora caesiocinerea Nyl. ex Malbr.: Wetmore, 1981  
Lecanora caesiorubella Ach. var. saximontana Imsh. &  
Brodo: Wetmore, 1981  
Lecanora cenisia Ach.: Wetmore, 1981  
Lecanora cinerea (L.) Somm.: Wetmore, 1981  
I Lecanora coilocarpa auct.: Wetmore, 1981  
Lecanora frustulosa (Dicks.) Ach.: Wetmore, 1981  
Lecanora impudens Degel.: Wetmore, 1981  
Lecanora meridionalis Magn.: Wetmore, 1981  
T Lecanora muralis (Schreb.) Rabenh.: Wetmore, 1981  
Lecanora mutabilis Somm.: Wetmore, 1981  
I Lecanora pallida (Schreb.) Rabenh. var. rubescens Imsh. &  
Brodo: Wetmore, 1981  
Lecanora piniperda Krb.: Wetmore, 1981  
Lecanora polytropa (Ehrh.) Rabenh.: Wetmore, 1981  
Lecanora pulicaris (Pers.) Ach.: Wetmore, 1981  
Lecanora rugosella Zahlbr.: Wetmore, 1981  
I Lecanora saligna (Schr.) Zahlbr.: Wetmore, 1981  
Lecanora sp.: Wetmore, 1981  
Lecanora strobilina (Spreng.) Kieff.: Wetmore, 1981  
I Lecanora symmictera Nyl.: Wetmore, 1981  
Lecanora varia (Ehrh.) Ach.: Wetmore, 1981  
Lecanora wisconsinensis Magn.: Wetmore, 1981  
Lecidea aeruginosa Borr.: Wetmore, 1981  
Lecidea albohyalina (Nyl.) Th. Fr.: Wetmore, 1981  
Lecidea anthracophila Nyl.: Wetmore, 1981  
Lecidea berengeriana (Mass.) Th. Fr.: Wetmore, 1981



- Lecidea caeca Lowe: Wetmore, 1981  
Lecidea elabens Fr.: Wetmore, 1981  
Lecidea epixanthoidiza Nyl.: Wetmore, 1981  
Lecidea erratica K rb.: Wetmore, 1981  
Lecidea erythrophaea Fl rke ex Somm.: Wetmore, 1981  
Lecidea friesii Ach.: Wetmore, 1981  
Lecidea fusca (Schaer.) Th. Fr.: Wetmore, 1981  
Lecidea granulosa (Hoffm.) Ach.: Wetmore, 1981  
Lecidea helvola (K rb.) Oliv.: Wetmore, 1981  
Lecidea lucida (Ach.) Ach.: Wetmore, 1981  
S Lecidea nylanderi (Anzi) Th. Fr.: Wetmore, 1981  
Lecidea oligotropa Laund.: Wetmore, 1981  
Lecidea plana Lahm ex K rb.: Wetmore, 1981  
Lecidea rufonigra (Tuck.) Nyl.: Wetmore, 1981  
I Lecidea scalaris (Ach.) Ach.: Wetmore, 1981  
Lecidea turgidula Fr.: Wetmore, 1981  
Lecidea uliginosa (Schr d.) Ach.: Wetmore, 1981  
S Lecidea vernalis (L.) Ach.: Wetmore, 1981  
Lecidella carpathica K rb.: Wetmore, 1981  
I Lecidella elaeochroma (Ach.) Hazsl.: Wetmore, 1981  
Lecidella glomerulosa (Fl rke) K rb.: Wetmore, 1981  
Lecidella stigmathea (Ach.) Hertel & Leuckert: Wetmore, 1981  
Lepraria neglecta auct.: Wetmore, 1981  
Lepraria sp.: Wetmore, 1981  
Lepraria zonata Brodo: Wetmore, 1981  
Leptogium arsenei Sierk: Wetmore, 1981  
Leptogium burnetiae Dodge: Wetmore, 1981  
Leptogium cyanescens (Ach.) K rb.: Wetmore, 1981  
Leptogium lichenoides (L.) Zahlbr.: Wetmore, 1981  
Leptogium milligranum Sierk: Wetmore, 1981  
Leptogium minutissimum (Fl rke) Fr.: Wetmore, 1981  
Leptogium saturninum (Dicks.) Nyl.: Wetmore, 1981  
Leptogium tenuissimum (Dicks.) Fr.: Wetmore, 1981  
Leptorhaphis epidermidis (Ach.) Th. Fr.: Wetmore, 1981  
S Lobaria pulmonaria (L.) Hoffm.: Wetmore, 1981  
Lobaria quercizans Michx.: Wetmore, 1981  
Micarea denigrata (Fr.) Hedl.: Wetmore, 1981  
Micarea melaena (Nyl.) Hedl.: Wetmore, 1981  
Micarea prasina (Fr.) K rb.: Wetmore, 1981  
Micarea viridescens (Schr d.) Brodo: Wetmore, 1981  
Microthelia micula K rb.: Wetmore, 1981  
Microthelia wallrothii (Hepp) Grumm.: Wetmore, 1981  
I Mycoblastus sanguinarius (L.) Norm.: Wetmore, 1981  
Mycocalicium parietinum (Ach. ex Schaer.) Hawksw.: Wetmore, 1981  
Nephroma bellum (Spreng.) Tuck.: Wetmore, 1981  
Nephroma helveticum Ach.: Wetmore, 1981  
Nephroma parile (Ach.) Ach.: Wetmore, 1981  
Nephroma resupinatum (L.) Ach.: Wetmore, 1981  
S-I Normandina pulchella (Borr.) Nyl.: Wetmore, 1981  
Ochrolechia arborea (Ljubitz) Almb.: Wetmore, 1981  
S Ochrolechia rosella (Tuck.) Vers.: Wetmore, 1981  
Opegrapha lichenoides Pers.: Wetmore, 1981  
S Opegrapha pulicaris (Hoffm.) Schr d.: Wetmore, 1981

- Pachyphiale fagicola (Hepp in Arn.) Zw.: Wetmore, 1981  
Pachyospora verrucosa (Ach.) Mass.: Wetmore, 1981  
Pannaria conoplea (Ach.) Bory: Wetmore, 1981  
Pannaria leucophaea (Vahl) Jorg.: Wetmore, 1981  
Pannaria leucosticta (Michen. in Darl.) Tuck.: Wetmore, 1981  
Pannaria praetermissa Nyl.: Wetmore, 1981  
Parmelia albertana Ahti: Wetmore, 1981  
Parmelia aurulenta Tuck.: Wetmore, 1981  
Parmelia baltimorensis Gyeln.: Wetmore, 1981  
Parmelia bolliana Müll. Arg.: Wetmore, 1981  
I Parmelia caperata (L.) Ach.: Wetmore, 1981  
Parmelia conspersa (Ehrh. ex Ach.) Ach.: Berry, 1941, Wetmore, 1981  
Parmelia crinita Ach.: Wetmore, 1981  
Parmelia cumberlandia (Gyeln.) Hale: Wetmore, 1981  
Parmelia disjuncta Erichs.: Wetmore, 1981  
Parmelia exasperata De Not.: Wetmore, 1981  
I Parmelia exasperatula Nyl.: Wetmore, 1981  
Parmelia flaventior Stirt.: Wetmore, 1981  
Parmelia fraudans Nyl.: Wetmore, 1981  
Parmelia galbina Ach.: Berry, 1941, Wetmore, 1981  
I Parmelia glabratula Lamy: Wetmore, 1981  
Parmelia hypopsila Müll. Arg.: Wetmore, 1981  
Parmelia infumata Nyl.: Wetmore, 1981  
Parmelia mexicana Gyeln.: Wetmore, 1981  
Parmelia obsessa Ach.: Wetmore, 1981  
I Parmelia olivacea (L.) Ach.: Berry, 1941, Ahti, 1966, Wetmore, 1981  
[Parmelia perforata (Jacq.) Ach.: Berry, 1941 misident.]  
S Parmelia plittii Gyeln.: Wetmore, 1981  
I Parmelia revoluta Flörke: Wetmore, 1981  
I Parmelia rudecta Ach.: Berry, 1941, Wetmore, 1981  
I Parmelia septentrionalis (Lynge) Ahti: Wetmore, 1981  
Parmelia soledica Ahlmb.: Wetmore, 1981  
S Parmelia squarrosa Hale: Wetmore, 1981  
I-T Parmelia subargetifera Nyl.: Wetmore, 1981  
S Parmelia subaurifera Nyl.: Wetmore, 1981  
Parmelia subolivacea Nyl. in Hasse: Wetmore, 1981  
I Parmelia subrudecta Nyl.: Wetmore, 1981  
Parmelia substygia Räs.: Wetmore, 1981  
I-T Parmelia sulcata Tayl.: Berry, 1941, Wetmore, 1981  
Parmelia taractica Kremp.: Wetmore, 1981  
I Parmelia trabeculata Ahti: Wetmore, 1981  
I Parmeliopsis aleurites (Ach.) Nyl.: Wetmore, 1981  
I Parmeliopsis ambigua (Wulf.) Nyl.: Wetmore, 1981  
I Parmeliopsis hyperopta (Ach.) Arn.: Wetmore, 1981  
Parmeliopsis placorodia (Ach.) Nyl.: Wetmore, 1981  
Peltigera aphthosa (L.) Willd.: Wetmore, 1981  
Peltigera canina (L.) Willd. var. canina: Wetmore, 1981  
Peltigera canina var. praetextata (Flörke in Somm.) Hue: Wetmore, 1981  
Peltigera canina var. rufescens (Weis) Mudd: Wetmore, 1981  
Peltigera canina var. spuria (Ach.) Schaer.: Wetmore,

- 1981
- Peltigera elisabethae* Gyeln.: Wetmore, 1981
- Peltigera evansiana* Gyeln.: Wetmore, 1981
- I *Peltigera horizontalis* (Huds.) Baumg.: Wetmore, 1981
- Peltigera lepidophora* (Nyl.) Vain.: Wetmore, 1981
- Peltigera leucophlebia* (Nyl.) Gyeln.: Wetmore, 1981
- Peltigera malacea* (Ach.) Funck: Wetmore, 1981
- Peltigera neckeri* Müll. Arg.: Wetmore, 1981
- Peltigera polydactyla* (Neck.) Hoffm.: Wetmore, 1981
- Peltigera scabrosa* Th. Fr.: Wetmore, 1981
- Pertusaria alpina* Hepp ex Ahles: Wetmore, 1981
- I *Pertusaria amara* (Ach.) Nyl.: Wetmore, 1981
- Pertusaria consocians* Dibb.: Wetmore, 1981
- Pertusaria leucostoma* (Bernh.) Mass.: Wetmore, 1981
- I *Pertusaria multipunctoides* Dibb.: Wetmore, 1981
- Pertusaria ophthalmiza* (Nyl.) Nyl.: Wetmore, 1981
- Pertusaria stenhammari* Hellb.: Wetmore, 1981
- Pertusaria trachythallina* Erichs.: Wetmore, 1981
- Pertusaria velata* (Turn.) Nyl.: Wetmore, 1981
- Phaeocalicium compressulum* (Nyl. ex Szat.) Schmidt: Wetmore, 1981
- Phaeocalicium polyporaenum* (Nyl.) Tibell: Wetmore, 1981
- Phaeocalicium populneum* (Brond ex Duby) Schmidt: Wetmore, 1981
- Phaeophyscia adiaastola* (Essl.) Essl.: Wetmore, 1981
- Phaeophyscia cernohorskyi* (Nadv.) Essl.: Wetmore, 1981
- Phaeophyscia chloantha* (Ach.) Moberg: Wetmore, 1981
- Phaeophyscia ciliata* (Hoffm.) Essl.: Wetmore, 1981
- Phaeophyscia endococcinea* (Körb.) Essl.: Wetmore, 1981
- Phaeophyscia hispidula* (Ach.) Essl.: Wetmore, 1981
- Phaeophyscia imbricata* (Vain.) Essl.: Wetmore, 1981
- Phaeophyscia pusilloides* (Zahlbr.) Essl.: Wetmore, 1981
- Phaeophyscia rubropulchra* (Degel.) Essl.: Wetmore, 1981
- Phaeophyscia sciastra* (Ach.) Morberg: Wetmore, 1981
- I *Phlyctis argena* (Spreng.) Flot.: Wetmore, 1981
- Phylliscum demangeonii* (Moug. & Mont.) Nyl.: Wetmore, 1981
- I *Physcia adscendens* (Th. Fr.) Oliv.: Wetmore, 1981
- I *Physcia aipolia* (Ehrh.) Hampe: Wetmore, 1981
- Physcia americana* Merr.: Wetmore, 1981
- Physcia caesia* (Hoffm.) Hampe: Wetmore, 1981
- I *Physcia dubia* (Hoffm.) Lett.: Wetmore, 1981
- I *Physcia millegrana* Degel.: Wetmore, 1981
- Physcia phaea* (Tuck.) Thoms.: Wetmore, 1981
- I *Physcia stellaris* (L.) Nyl.: Wetmore, 1981
- Physcia subtilis* Degel.: Wetmore, 1981
- I *Physconia deterosa* (Nyl.) Poelt: Wetmore, 1981
- Placynthium nigrum* (Huds.) S. Gray: Wetmore, 1981
- Platismatia tuckermanii* (Oakes) W. Culb.: Wetmore, 1981
- Polyblastiopsis fallaciosa* (Stizenb.) Zahlbr.: Wetmore, 1981
- Pseudevernia consocians* (Vain.) Hale & Culb.: Wetmore, 1981
- Pseudocyphellaria crocata* (L.) Vain.: Wetmore, 1981
- Pyxine soledata* (Ach.) Mont.: Wetmore, 1981

- S Ramalina americana Hale: Wetmore, 1981  
 I Ramalina dilacerata (Hoffm.) Hoffm.: Wetmore, 1981  
Ramalina intermedia Nyl.: Wetmore, 1981  
Ramalina sinensis Jatta: Wetmore, 1981  
Rhizocarpon badioatrum (Flörke ex Spreng.) Th. Fr.:  
 Wetmore, 1981  
Rhizocarpon cinereovirens (Müll. Arg.) Vain.: Wetmore,  
 1981  
Rhizocarpon concentricum (Dav.) Beltr.: Wetmore, 1981  
Rhizocarpon disporum (Naeg. ex Hepp) Müll. Arg.: Wetmore,  
 1981  
Rhizocarpon geographicum (L.) DC.: Wetmore, 1981  
Rhizocarpon grande (Flörke ex Flot.) Arn.: Wetmore, 1981  
Rhizocarpon hochstetteri (Körb.) Vain.: Wetmore, 1981  
Rhizocarpon obscuratum (Ach.) Mass.: Wetmore, 1981  
Rhizocarpon plicatile (Leight.) A. L. Sm.: Wetmore, 1981  
Rhizocarpon subgeminatum Eith.: Wetmore, 1981  
Rhizoplaca chrysoleuca (Sm.) Zopf.: Wetmore, 1981  
Rhizoplaca melanophthalma (Ram.) Leuck. & Poelt: Wetmore,  
 1981  
Rinodina archaea (Ach.) Arn.: Wetmore, 1981  
Rinodina dakotensis Magn.: Wetmore, 1981  
 I Rinodina exigua (Ach.) S. Gray: Wetmore, 1981  
Rinodina iowensis Zahlbr.: Wetmore, 1981  
Rinodina pachysperma Magn.: Wetmore, 1981  
Rinodina populicola Magn.: Wetmore, 1981  
Rinodina subminuta Magn.: Wetmore, 1981  
Rinodina tephraspis (Tuck.) Herre: Wetmore, 1981  
Rinodina turfacea (Wahlenb.) Körb.: Wetmore, 1981  
Sarcogyne simplex (Dav.) Nyl.: Wetmore, 1981  
Sphinctrina anglica Nyl.: Wetmore, 1981  
Sphinctrina turbinata (Pers. ex Fr.) De Not.: Wetmore,  
 1981  
Spilonema revertens Nyl.: Wetmore, 1981  
Staurothele clopima (Wahlenb. ex Ach.) Th. Fr.: Wetmore,  
 1981  
Staurothele fissa (Tayl.) Zw.: Wetmore, 1981  
 I Stenocybe major Nyl. ex Körb.: Wetmore, 1981  
Stenocybe pullatula (Ach. ex Somm.) B. Stein: Wetmore,  
 1981  
Stereocaulon dactylophyllum Flörke: Wetmore, 1981  
Stereocaulon paschale (L.) Hoffm.: Wetmore, 1981  
Stereocaulon saxatile Magn.: Wetmore, 1981  
Stereocaulon tomentosum Fr.: Wetmore, 1981  
Sticta fuliginosa (Dicks.) Ach.: Wetmore, 1981  
Sticta weigelii (Ach.) Vain.: Fink, 1903, Wetmore, 1981  
Strigula affinis (Mass.) Harris in Hawksw. et al:  
 Wetmore, 1981  
Teloschistes chrysophthalmus (L.) Th. Fr.: Wetmore, 1981  
Thelocarpon laureri (Flot.) Nyl.: Wetmore, 1981  
Thrombium epigaeum (Pers.) Wallr.: Wetmore, 1981  
Umbilicaria deusta (L.) Baumg.: Wetmore, 1981  
Umbilicaria hyperborea (Ach.) Hoffm.: Wetmore, 1981  
Umbilicaria mammulata (Ach.) Tuck.: Wetmore, 1981  
Umbilicaria muehlenbergii Ach.: Wetmore, 1981

- Umbilicaria vellea (L.) Ach.: Wetmore, 1981  
Usnea cavernosa Tuck.: Wetmore, 1981  
S Usnea filipendula Stirt.: Wetmore, 1981  
Usnea fulvoreagens (Räs.) Räs.: Wetmore, 1981  
S-I Usnea hirta (L.) Wigg.: Wetmore, 1981  
Usnea longissima Ach.: Fink, 1903, Wetmore, 1981  
S-I Usnea subfloridana Stirt.: Wetmore, 1981  
Verrucaria margacea Wahlbenb.: Wetmore, 1981  
Verrucaria nigrescens Pers.: Wetmore, 1981  
Xanthoria elegans (Link) Th. Fr.: Wetmore, 1981  
S-I Xanthoria fallax (Hepp) Arn.: Wetmore, 1981  
I Xanthoria polycarpa (Ehrh.) Oliv.: Wetmore, 1981  
Xanthoria soreliata (Vain.) Poelt: Wetmore, 1981  
Xylographa abietina (Pers.) Zahlbr.: Wetmore, 1981  
Xylographa disseminata Will.: Wetmore, 1981  
Xylographa vitiligo (Ach.) Laund.: Wetmore, 1981

# VOYA REFERENCES

- Ahti, T. 1966. *Parmelia olivacea* and the allied non-isidiate and non-sorediate corticolous lichens in the Northern Hemisphere. *Acta Bot. Fenn.* 70:1-68.
- Berry, E. C. 1941. A monograph of the genus *Parmelia* in North America, north of Mexico. *Ann. Missouri Bot. Garden* 28:31-146.
- Fink, B. 1903. Contributions to a knowledge of the lichens of Minnesota. VII. Lichens of the northern boundary. *Minnesota Botanical Studies* 3:167-236. (not cited in above list but included in Wetmore, 1981)
- Imshaug, H. A. 1951. The lichen-forming species of the genus *Buellia* occurring in the United States and Canada. PhD. thesis, Univ. of Michigan.
- Wetmore, C. M. 1981. Lichens of Voyageurs National Park, Minnesota. *Bryologist* 84:482-491.

← add  
to  
list



WICA - WIND CAVE NATIONAL PARK

Total number of species = 35 : Poorly known

- Aspicilia cinerea (L.) K8rb.: Wetmore, 1967  
 [ Bryoria "jubata" (L.) Ach.: Wetmore, 1967 ident.  
 uncertain. ]
- S-I Buellia zahlbruckneri J. Stein.: Wetmore, 1967  
Caloplaca cerina (Ehrh) Th. Fr.: Wetmore, 1967  
Caloplaca saxicola (Hoffm.) Nordin: Wetmore, 1967  
Catillaria chalybeia (Borr.) Mass.: Wetmore, 1967  
Cetraria fendleri (Nyl.) Tuck.: Wetmore, 1967  
Cladonia caespiticia (Pers.) Fl8rke: Wetmore, 1967  
Cladonia chlorophaea (Fl8rke ex Somm.) Spreng.: Wetmore,  
 1967  
Cladonia robbinsii Evans: Wetmore, 1967  
Cypheium tigillare (Ach.) Ach.: Wetmore, 1967  
Lecanora cenisia Ach.: Wetmore, 1967  
Lecanora frustulosa (Dicks.) Ach.: Wetmore, 1967  
 I Parmelia caperata (L.) Ach.: Wetmore, 1967  
Parmelia flaventior Stirt.: Wetmore, 1967, MIN HERB  
Parmelia laevigata (Sm.) Ach.: Wetmore, 1967  
Parmelia soledica Nyl.: Wetmore, 1967  
Parmelia subolivacea Nyl. in. Hasse: Wetmore, 1967  
Parmelia substygia R8s.: Wetmore, 1967  
 I-T Parmelia sulcata Tayl.: Wetmore, 1967  
Parmelia tasmanica Hook. f. & Tayl.: Wetmore, 1967  
Parmeliopsis placorodia (Ach.) Nyl.: Wetmore, 1967  
Peltigera elisabethae Gyeln.: Wetmore, 1967  
Peltigera lepidophora (Nyl. ex Vain.) Bitter: Wetmore,  
 1967  
Physcia caesia (Hoffm.) Hampe: Wetmore, 1967  
Physcia callosa Nyl.: Wetmore, 1967  
Physcia subtilis Degel.: Wetmore, 1967  
 I Physconia deterosa (Nyl.) Poelt: Wetmore, 1967  
Rhizocarpon disporum (Naeg. ex Hepp) M8ll. Arg.: Wetmore,  
 1967  
Rhizoplaca chryssoleuca (Smith) Zopf: Wetmore, 1967  
Rhizoplaca melanophthalma (Ram.) Leuck. & Poelt: Wetmore,  
 1967  
Staurothele clopima (Wahlenb. ex Ach.) Th. Fr.: Wetmore,  
 1967  
Umbilicaria torrefacta (Lightf.) Schrad.: Wetmore, 1967  
 S-I Usnea hirta (L.) Wigg.: Wetmore, 1967  
Xanthoria elegans (Link) Th. Fr.: Wetmore, 1967  
 S-I Xanthoria fallax (Hepp) Arn.: Wetmore, 1967

WICA REFERENCES

- Wetmore, C. M. 1967. Lichens of the Black Hills of South  
 Dakota and Wyoming. Publ. Museum, Mich. State Univ.,  
 Biol. Ser. 3(4):209-494.

# YELL - YELLOWSTONE NATIONAL PARK

Total number of species = 49 : Poorly known

2 species with type localities in the park

- Acarospora chlorophana (Wahlenb. ex Ach.) Mass.: Nelson, 1900
- S Bryoria fremontii (Tuck.) Brodo & Hawksw.: MIN HERB
- S [Bryoria "jubata" (L.) Ach.: Nelson, 1900 ident. uncertain]
- S Bryoria trichodes (Michx.) Brodo & Hawksw.: MIN HERB
- Caloplaca saxicola (Hoffm.) Nordin: Muller, 1889
- Cetraria canadensis (Räs.) Räs.: MIN HERB
- Cetraria fendleri (Nyl.) Tuck.: Esslinger, 1973
- Cladonia arbuscula (Wallr.) Rabenh.: Muller, 1889, Nelson, 1900, Robbins, 1931
- Cladonia cariota (Ach.) Spreng.: Robbins, 1931
- Cladonia carneola (Fr.) Fr.: Robbins, 1931
- Cladonia cenotea (Ach.) Schaer.: Robbins, 1931
- Cladonia chlorophaea (Flörke ex Somm.) Spreng.: Robbins, 1931
- I Cladonia coniocraea (Flörke) Spreng.: Nelson, 1900, Robbins, 1931
- Cladonia deformis (L.) Hoffm.: Nelson, 1900, Robbins, 1931
- Cladonia ecmocyna (Ach.) Nyl.: Robbins, 1931
- \* Cladonia elongata f. intermedia Robb.: Robbins, 1931
- Cladonia macrophyllodes Nyl. Nyl.: Robbins, 1931
- Cladonia phyllophora Hoffm.: Nelson, 1900, Robbins, 1931
- Cladonia rei Schaer.: Robbins, 1931
- Cladonia stellaris (Opiz) Pouz. & Vezda: Muller, 1889
- Cladonia tenuis (Flörke) Harm.: Robbins, 1931
- Cladonia verticillata (Hoffm.) Schaer.: Nelson, 1900, Robbins, 1931
- \* Dermatocarpon vagans Imsh.: Imshaug, 1950b
- Hypogymnia enteromorpha (Ach.) Nyl.: Berry, 1941
- Lecanora hypoptoides Nyl.: Nelson, 1900
- Lecanora polytropa (Ehrh.) Rabenh.: Nelson, 1900
- Lecidea atrobrunnea (Ram.) Schaer.: Nelson, 1900
- Lecidea globifera Ach.: Muller, 1889
- Letharia vulpina (L.) Hue: Nelson, 1900, MIN HERB
- Omphalodiscus virginis (Schaer.) Schol.: Llano, 1950, Imshaug, 1957, MIN HERB
- [Parmelia conspersa (Ach.) Ach.: Nelson, 1900 misident.]
- Parmelia lineola Berry: Berry, 1941
- I Parmelia saxatilis (L.) Ach.: Berry, 1941
- Peltigera apthosa (L.) Willd.: Nelson, 1900, Thomson, 1950, MIN HERB
- Peltigera canina (L.) Willd.: Thomson, 1950
- Peltigera canina var. rufescens (Weis) Mudd: Nelson, 1900, Thomson, 1950, Imshaug, 1957
- Peltigera lepidophora (Nyl. ex Vain.) Bitter: Imshaug, 1957



Peltigera malacea (Ach.) Funck: Thomson, 1950  
Peltigera polydactyla (Neck.) Hoffm.: Thomson, 1950  
Peltigera venosa (L.) Baumg.: Thomson, 1950, Imshaug,  
1957

Physconia muscigena (Ach.) Poelt: Thomson, 1963

Pseudephebe pubescens (L.) Choisy: Muller, 1889

Psoroma hypnorum (Vahl) S. Gray: Muller, 1889

Rhizoplaca chrysoleuca (Smith) Zopf.: Nelson, 1900

I Rinodina exigua (Ach.) S. Gray: Muller, 1889

Trapelia coarctata (Turn. ex Sm.) Choisy: Nelson, 1900

Umbilicaria mammulata (Ach.) Tuck.: Muller, 1889

Umbilicaria polyphylla (L.) Baumg.: Nelson, 1900

Umbilicaria vellea (L.) Ach.: Nelson, 1900, Llano, 1950,

MIN HERB

Xanthoria elegans (Link) Th. Fr.: Rudolph, 1955

S-I Xanthoria fallax (Hepp) Arn.: Muller, 1889

# YELL REFERENCES

- Berry, E. C. 1941. A monograph of the genus *Parmelia* in North America, north of Mexico. *Ann. Missouri Bot. Garden* 28: 31-146.
- Esslinger, T. H. 1973. Chemical and taxonomic studies on some corticolous members of the lichen genus *Cetraria* in western North America. *Mycologia* 65:602-613.
- Imshaug, H. A. 1950b. A new species of *Dermatocarpon*. *Mycologia* 42:753-757.
- Imshaug, H. A. 1957. Alpine lichens of western United States and adjacent Canada. I. The macrolichens. *Bryologist* 60:177-272.
- Llano, G. A. 1950. A monograph of the lichen family Umbilicariaceae in the western hemisphere. Off. Naval Res., Washington, D. C. (Navexos P-831):1-281.
- Muller, J. 1889. Lichenes Oregonenses in Rocky Mountains, Washington Territory, insula Vancouver et territoriis vicinis Americae occidentalis a cl. *Flora* 72: 362-366.
- Nelson, A. 1900. The cryptogams of Wyoming. A preliminary report upon those species which have been secured to date in the botanical survey of the state. Tenth Annual Report of Wyoming Experiment Station 1-38. (lichens p. 23-28).
- Robbins, C. A. 1931. *Cladonias* collected by S. F. Blake in the western United States. *Rhodora* 33:135-139.
- Rudolph, E. D. 1955. Revisionary studies in the lichen family Blasteniaceae in North America north of Mexico. Ph. D. Thesis, Washington, Univ.
- Thomson, J. W. 1950. The species of *Peltigera* of North America north of Mexico. *Amer. Midl. Nat.* 44:1-68.
- Thomson, J. W. 1963. The lichen genus *Physcia* in North America. *Nova Hedwigia, Beih.* 7, viii + 172.

# YOSE - YOSEMITE NATIONAL PARK

Total number of species = 57 : Poorly known

- Acarospora chlorophana (Wahlenb. ex Ach.) Mass.: MIN HERB  
Acarospora thamnina (Tuck.) Herre: MIN HERB  
Aspicilia caesiocinerea (Nyl. ex Malbr.) Arn.: MIN HERB  
Buellia badia (Fr.) Mass.: Imshaug, 1951  
Buellia penichra (Tuck.) Hasse: Imshaug, 1951  
Buellia semitensis Tuck.: Imshaug, 1951  
Caloplaca epithallina Lynge: MIN HERB  
Caloplaca peliophylla (Tuck.) Zahlbr.: Rudolph, 1955  
Candelariella rosulans (Müll. Arg.) Zahlbr.: MIN HERB  
Cetraria platyphylla Tuck.: Esslinger, 1973  
Cladonia cariosa (Ach.) Spreng.: Robbins, 1931  
Cladonia chlorophaea (Flörke ex Somm.) Spreng.: Robbins, 1931  
Cladonia major (Hag.) Sandst.: Robbins, 1931  
Dermatocarpon miniatum (L.) Mann: Imshaug, 1957, MIN HERB  
Dimelaena oreina (Ach.) Norm.: Sheard, 1974, MIN HERB  
Dimelaena thysanota (Tuck.) Hale & W. Culb.: Sheard, 1974, MIN HERB  
Koerberia sonomensis (Tuck.) Henss.: Henssen, 1963b  
Leptogium riviale Tuck. Tuck.: Sierk, 1964  
Leptogium sinuatum (Huds.) Mass.: Sierk, 1964  
Letharia vulpina (L.) Hue: MIN HERB  
Massalongia carnosa (Dicks.) Krb.: Henssen, 1963a  
Omphalodiscus krascheninnikovii (Sav.) Schol.: Imshaug, 1957, MIN HERB  
Omphalodiscus virginis (Schaer.) Schol.: Imshaug, 1957  
Parmelia elegantula (Zahlbr.) Szat.: MIN HERB  
Parmelia exasperata De Not.: Berry, 1941, Herre, 1946  
Parmelia glabra (Schaer.) Nyl.: Ahti, 1966  
Parmelia glabroides Essl.: Esslinger, 1977  
Parmelia mexicana Gyeln.: MIN HERB  
Parmelia multisporea Schneid.: Berry, 1941  
I Parmelia olivacea (L.) Ach.: Berry, 1941, Herre, 1946  
I Parmelia saxatilis (L.) Ach.: MIN HERB  
Parmelia sphaerosporella Müll. Arg.: Herre, 1946  
Parmelia stygia (L.) Ach.: Herre, 1946  
Parmelia subelegantula Essl.: Esslinger, 1977  
Parmelia subolivacea Nyl. in. Hasse: Ahti, 1966  
Parmelia substygia Räs.: MIN HERB  
Peltigera canina var. rufescens (Weis) Mudd: Thomson, 1950  
Peltigera canina var. spuria (Ach.) Schaer.: Thomson, 1950, Imshaug, 1957  
Peltigera collina (Ach.) Ach.: Thomson, 1950, MIN HERB  
Phaeophyscia ciliata (Hoffm.) Essl.: Thomson, 1963, Esslinger, 1978  
Phaeophyscia decolor (Kashiwadani) Essl.: Esslinger, 1978  
Phaeophyscia endococcinea (Krb.) Essl.: MIN HERB  
I Physcia aipolia (Ehrh.) Hampe: MIN HERB  
Physcia albinea (Ach.) Nyl.: Thomson, 1963

- Physcia caesia (Hoffm.) Hampe: MIN HERB  
Physcia callosa Nyl.: Thomson, 1963  
 T Physcia dubia (Hoffm.) Lett.: Thomson, 1963  
Physcia stellaris (L.) Nyl.: Thomson, 1963  
 I Physconia deterosa (Nyl.) Poelt: Thomson, 1963  
Physconia muscigena (Ach.) Poelt: Thomson, 1963  
Placynthium flabellosum (Tuck.) Zahlbr.: Henssen, 1963c  
Polychidium muscicola (Sw.) S. Gray: MIN HERB  
Pseudephebe pubescens (L.) Choisy: Berry, 1941, Herre,  
 1946  
Rinodina mniaraea (Ach.) K rb.: MIN HERB  
Umbilicaria deusta (L.) Baumg.: MIN HERB  
Umbilicaria hyperborea (Ach.) Hoffm.: MIN HERB  
Xanthoria ramulosa (Tuck.) Herre: Rudolph, 1955

# YOSE REFERENCES

- Ahti, T. 1966. *Parmelia olivacea* and the allied non-isidiate and non-sorediate corticolous lichens in the Northern Hemisphere. *Acta Bot. Fenn.* 70:1-68.
- Berry, E. C. 1941. A monograph of the genus *Parmelia* in North America, north of Mexico. *Ann. Missouri Bot. Garden* 28: 31-146.
- Esslinger, T. H. 1973. Chemical and taxonomic studies on some corticolous members of the lichen genus *Cetraria* in western North America. *Mycologia* 65:602-613.
- Esslinger, T. L. 1977. A chemosystematic revision of the brown *Parmeliae*. *Jour. Hattori Bot. Lab.* 42:1-211.
- Esslinger, T. L. 1978. Studies in the lichen family *Physciaceae*. II. The genus *Phaeophyscia* in North America. *Mycotaxon* 7:283-320.
- Henssen, A. 1963a. The North American species of *Massalongia* and generic relationships. *Can. Jour. Bot.* 41:1331-1346.
- Henssen, A. 1963b. Study of the genus *Koerberia*. *Can. Jour. Bot.* 41:1347-1357.
- Henssen, A. 1963c. The North American species of *Placynthium*. *Can. Jour. Bot.* 41:1687-1724.
- Herre, A. W. 1946. The *Parmelias* of California. *Contrib. Dudley Herb.* 3:313-350.
- Imshaug, H. A. 1951. The lichen-forming species of the genus *Buellia* occurring in the United States and Canada. PhD. thesis, Univ. of Michigan.
- Imshaug, H. A. 1957. Alpine lichens of western United States and adjacent Canada. I. The macrolichens. *Bryologist* 60:177-272.
- Robbins, C. A. 1931. *Cladonias* collected by S. F. Blake in the western United States. *Rhodora* 33:135-139.
- Rudolph, E. D. 1955. Revisionary studies in the lichen family *Blasteniaceae* in North America north of Mexico. Ph. D. Thesis, Washington, Univ.
- Sheard, J. W. 1974. The genus *Dimelaena* in North America north of Mexico. *Bryologist* 77:128-141 (including simplified locality list provided in mimeograph form as supplement).
- Sierk, H. A. 1964. The genus *Leptogium* in North America north of Mexico. *Bryologist* 67:245-317.
- Thomson, J. W. 1950. The species of *Peltigera* of North America north of Mexico. *Amer. Midl. Nat.* 44:1-68.
- Thomson, J. W. 1963. The lichen genus *Physcia* in North America. *Nova Hedwigia, Beih.* 7, viii + 172.

# ZION - ZION NATIONAL PARK

Total number of species = 168 : Completely known

- Acarospora chlorophana (Wahlenb. ex Ach.) Mass.: Nash & Sigal, 1981, Rushforth et al., 1980
- Acarospora fuscata (Schröd.) Arn.: Rushforth et al., 1980, Nash & Sigal, 1981, Rushforth et al., 1982, MIN HERB
- Acarospora schleicheri (Ach.) Mass.: Rushforth et al., 1980, Nash & Sigal, 1981, Rushforth et al., 1982, MIN HERB
- Acarospora smaragdula (Wahlenb. ex Ach.) Mass.: Nash & Sigal, 1981, Rushforth et al., 1980
- Acarospora strigata (Nyl.) Jatta: Nash & Sigal, 1981, Rushforth et al., 1980, Rushforth et al., 1982, MIN HERB
- Aspicilia alphoplaca (Wahlenb. ex Ach.) Poelt & Leuck.: Nash & Sigal, 1981, Rushforth et al., 1980, Rushforth et al., 1982, MIN HERB
- Aspicilia caesiocinerea (Nyl. ex Malbr.) Arn.: Nash & Sigal, 1981, Rushforth et al., 1980, Rushforth et al., 1982
- Aspicilia calcarea (L.) Krb.: Nash & Sigal, 1981, Rushforth et al., 1980, Rushforth et al., 1982
- Aspicilia cinerea (L.) Krb.: Nash & Sigal, 1981, Rushforth et al., 1980, Rushforth et al., 1982
- Bacidia inundata (Fr.) Krb.: Nash & Sigal, 1981, Rushforth et al., 1980
- Biatorella ochrophora Nyl.: Nash & Sigal, 1981, Rushforth et al., 1980
- I Buellia alboatra (Hoffm.) Branth & Rostr.: Nash & Sigal, 1981, Rushforth et al., 1980, Rushforth et al., 1982
- T Buellia punctata (Hoffm.) Mass.: Nash & Sigal, 1981, Rushforth et al., 1980
- Buellia retrovertens Tuck.: Nash & Sigal, 1981, Rushforth et al., 1980, Rushforth et al., 1982
- Buellia spuria (Schaer.) Anzi: Nash & Sigal, 1981, Rushforth et al., 1980
- Buellia turgescens Tuck.: Nash & Sigal, 1981, Rushforth et al., 1980
- Buellia vilis Th. Fr.: Nash & Sigal, 1981, Rushforth et al., 1980
- Caloplaca approximata (Lynge) Magn.: Nash & Sigal, 1981, Rushforth et al., 1980, MIN HERB
- Caloplaca arenaria (Pers.) Müll. Arg.: Nash & Sigal, 1981, Rushforth et al., 1980, MIN HERB
- Caloplaca arizonica Magn.: Nash & Sigal, 1981, Rushforth et al., 1980, Rushforth et al., 1982
- Caloplaca atroalba (Tuck.) Zahlbr.: Nash & Sigal, 1981, Rushforth et al., 1980
- S-I Caloplaca cerina (Ehrh.) Th. Fr.: Nash & Sigal, 1981, Rushforth et al., 1980
- Caloplaca cinnabarina (Ach.) Zahlbr.: Nash & Sigal, 1981,

- Rushforth et al., 1980, MIN HERB
- Caloplaca decipiens (Arn.) J. Stein.: Nash & Sigal, 1981,  
Rushforth et al., 1980, Rushforth et al., 1982, MIN  
HERB
- Caloplaca flavovirescens (Wulf.) Dalla Torre & Sarnth.:  
Nash & Sigal, 1981, Rushforth et al., 1980,  
Rushforth et al., 1982
- Caloplaca fraudans (Th. Fr.) Oliv.: Rushforth et al.,  
1980, Rushforth et al., 1982
- Caloplaca modesta (Zahlbr.) Fink: Nash & Sigal, 1981,  
Rushforth et al., 1980, MIN HERB
- Caloplaca saxicola (Hoffm.) Nordin: Nash & Sigal, 1981,  
Rushforth et al., 1980, Rushforth et al., 1982, MIN HERB
- Caloplaca tiroliensis Zahlbr.: Nash & Sigal, 1981,  
Rushforth et al., 1980
- Caloplaca urceolata B. de Lesd.: Nash & Sigal, 1981,  
Rushforth et al., 1980
- S-I Candelaria concolor (Dicks.) B. Stein: Nash & Sigal,  
1981, Rushforth et al., 1980
- Candelariella aurella (Hoffm.) Zahlbr.: Nash & Sigal,  
1981, Rushforth et al., 1980, MIN HERB
- Candelariella deflexa (Nyl.) Zahlbr.: Nash & Sigal, 1981,  
Rushforth et al., 1980, Rushforth et al., 1982
- Candelariella rosulans (Müll. Arg.) Zahlbr.: Nash &  
Sigal, 1981, Rushforth et al., 1980, Rushforth et  
al., 1982, MIN HERB
- I Candelariella vitellina (Ehrh.) Müll. Arg.: Nash & Sigal,  
1981, Rushforth et al., 1980, Rushforth et al., 1982
- S-I Candelariella xanthostigma (Ach.) Lett.: Nash & Sigal,  
1981, Rushforth et al., 1980
- Cladonia balfourii Cromb.: Nash & Sigal, 1981, Rushforth  
et al., 1980
- Cladonia chlorophaea (Flörke ex Somm.) Spreng.: Nash &  
Sigal, 1981, Rushforth et al., 1980
- Cladonia pyxidata (L.) Hoffm.: Nash & Sigal, 1981,  
Rushforth et al., 1980, MIN HERB
- Collema coccophorum Tuck.: Nash & Sigal, 1981, Rushforth  
et al., 1980, Rushforth et al., 1982, MIN HERB
- Collema furfuraceum (Arn.) Du Reitz: Nash & Sigal, 1981,  
Rushforth et al., 1980, Rushforth et al., 1982, MIN  
HERB
- Collema polycarpon Hoffm.: Nash & Sigal, 1981, Rushforth  
et al., 1980
- Collema subflaccidum Degel.: Nash & Sigal, 1981,  
Rushforth et al., 1980
- Collema tenax (Sw.) Ach.: MIN HERB
- Collema tenax var. ceranoides (Borrer) Degel.: Nash &  
Sigal, 1981, Rushforth et al., 1980
- Collema tuniforme (Ach.) Ach.: MIN HERB
- Collema undulatum Laur. ex Flot.: Rushforth et al., 1982
- Collema undulatum var. granulosum Degel.: Nash & Sigal,  
1981, Rushforth et al., 1980
- Dermatocarpon lachneum (Ach.) A. L. Sm.: Nash & Sigal,  
1981, Rushforth et al., 1980, Rushforth et al.,  
1982, MIN HERB



- Dermatocarpon leptophyllum (Ach.) Vain.: Nash & Sigal, 1981, Rushforth et al., 1980, Rushforth et al., 1982
- Dermatocarpon miniatum (L.) Mann: Nash & Sigal, 1981, Rushforth et al., 1980, Rushforth et al., 1982, MIN HERB
- Dermatocarpon reticulatum Magn.: Nash & Sigal, 1981, Rushforth et al., 1980
- Dimelaena oreina (Ach.) Norm.: Nash & Sigal, 1981, Rushforth et al., 1980
- Diploschistes actinostomus (Pers.) Zahlbr.: Nash & Sigal, 1981, Rushforth et al., 1980, Rushforth et al., 1982
- Diploschistes scruposus (Schreb.) Norm.: Nash & Sigal, 1981, Rushforth et al., 1980, MIN HERB
- Endocarpon pusillum Hedw.: Nash & Sigal, 1981, Rushforth et al., 1980
- Glypholecia scabra (Pers.) Müll. Arg.: MIN HERB
- Gonohymenia cribellifera Stein: Nash & Sigal, 1981, Rushforth et al., 1980
- Heppia lutosa (Ach.) Nyl.: Nash & Sigal, 1981, Rushforth et al., 1980, MIN HERB
- Heterodermia neoleucomelaena Kurok.: Rushforth et al., 1980, Rushforth et al., 1982
- Lecania dimera (Nyl.) Th. Fr.: Nash & Sigal, 1981, Rushforth et al., 1980, Rushforth et al., 1982
- Lecania dudleyi Herre: Nash & Sigal, 1981, Rushforth et al., 1980
- Lecanora cenisia Ach.: Nash & Sigal, 1981, Rushforth et al., 1980
- I Lecanora chlarotera Nyl.: Nash & Sigal, 1981, Rushforth et al., 1980
- Lecanora christoi W. Web.: Nash & Sigal, 1981, Rushforth et al., 1980
- Lecanora crenulata (Dicks.) Nyl.: Nash & Sigal, 1981, Rushforth et al., 1980, Rushforth et al., 1982
- T Lecanora dispersa (Pers.) Somm.: Nash & Sigal, 1981, Rushforth et al., 1980, Rushforth et al., 1982
- Lecanora frustulosa (Dicks.) Ach.: Nash & Sigal, 1981, Rushforth et al., 1980
- Lecanora garovaglii (Körb.) Zahlbr.: Nash & Sigal, 1981, Rushforth et al., 1980
- T Lecanora hageni (Ach.) Ach.: Nash & Sigal, 1981, Rushforth et al., 1980, Rushforth et al., 1982
- Lecanora impudens Degel.: Nash & Sigal, 1981, Rushforth et al., 1980
- T Lecanora muralis (Schreb.) Rabenh.: Nash & Sigal, 1981, Rushforth et al., 1980, Rushforth et al., 1982, MIN HERB
- Lecanora novomexicana (B. de Lesd.) B. de Lesd. non Magn.: Nash & Sigal, 1981, Rushforth et al., 1980
- Lecanora piniperda Körb.: Rushforth et al., 1980, Rushforth et al., 1982
- Lecanora polytropa (Ehrh.) Rabenh.: Rushforth et al., 1980, Rushforth et al., 1982
- Lecanora rupicola (L.) Zahlbr.: Nash & Sigal, 1981, Rushforth et al., 1980
- I Lecanora saligna (Schrad.) Zahlbr.: Nash & Sigal, 1981,



- Rushforth et al., 1980
- Lecidea alaiensis Vain.: Nash & Sigal, 1981, Rushforth et al., 1980
- Lecidea atrobrunnea (Ram.) Shaer.: Nash & Sigal, 1981, Rushforth et al., 1980, Rushforth et al., 1982
- Lecidea decipiens (Hedw.) Ach.: Nash & Sigal, 1981, Rushforth et al., 1980
- Lecidea globifera Ach.: Nash & Sigal, 1981, Rushforth et al., 1980
- Lecidea novomexicana (B. de Lesd.) W. Web.: Nash & Sigal, 1981, Rushforth et al., 1980
- Lecidea russellii Tuck.: Nash & Sigal, 1981, Rushforth et al., 1980, Rushforth et al., 1982
- Lecidea tessellata (Ach.) Flörke: Nash & Sigal, 1981, Rushforth et al., 1980, Rushforth et al., 1982
- Lecidella carpathica Körb.: Nash & Sigal, 1981, Rushforth et al., 1980
- Lecidella euphorea (Flörke) Hert.: Nash & Sigal, 1981, Rushforth et al., 1980
- Lecidella stigmatia (Ach.) Hert. & Leuck.: Nash & Sigal, 1981, Rushforth et al., 1980
- Lepraria chlorina (Ach.) Ach. ex Sm.: Nash & Sigal, 1981, Rushforth et al., 1980
- Lepraria membranacea (Dicks.) Vain.: Nash & Sigal, 1981, Rushforth et al., 1980
- Leptogium californicum Tuck.: Nash & Sigal, 1981, Rushforth et al., 1980
- Leptogium cyanescens (Ach.) Körb.: Nash & Sigal, 1981, Rushforth et al., 1980
- Leptogium erectum Sierk: Nash & Sigal, 1981, Rushforth et al., 1980
- Leptogium lichenoides (L.) Zahlbr.: Nash & Sigal, 1981, Rushforth et al., 1980
- Leptogium plicatile (Ach.) Leight.: Nash & Sigal, 1981, Rushforth et al., 1980
- Leptogium sinuatum (Huds.) Mass.: Nash & Sigal, 1981, Rushforth et al., 1980
- Pachyospora mutabilis (Ach.) Mass.: Nash & Sigal, 1981, Rushforth et al., 1980
- Pannaria microphylla (Sw.) Mass.: Nash & Sigal, 1981, Rushforth et al., 1980
- Parmelia conspersa (Ach.) Ach.: Nash & Sigal, 1981, Rushforth et al., 1980
- Parmelia cumberlandia (Gyeln.) Hale: Nash & Sigal, 1981, Rushforth et al., 1980
- Parmelia dierythra Hale: Nash & Sigal, 1981, Rushforth et al., 1980
- Parmelia lineola Berry: Nash & Sigal, 1981, Rushforth et al., 1980, Rushforth et al., 1982, MIN HERB
- Parmelia mexicana Gyeln.: Nash & Sigal, 1981, Rushforth et al., 1980, Rushforth et al., 1982
- Parmelia soredica Nyl.: Nash & Sigal, 1981, Rushforth et al., 1980
- I-T Parmelia subargentifera Nyl.: Nash & Sigal, 1981, Rushforth et al., 1980

- Parmelia subdecipiens Vain.: Nash & Sigal, 1981,  
Rushforth et al., 1980
- Parmelia subhosseana Essl.: Nash & Sigal, 1981, Rushforth  
et al., 1980
- Parmelia subolivacea Nyl. in. Hasse: Nash & Sigal, 1981,  
Rushforth et al., 1980, Rushforth et al., 1982
- Parmelia substygia Räs.: Nash & Sigal, 1981, Rushforth et  
al., 1980
- Parmelia taractica Kremp.: Nash & Sigal, 1981, Rushforth  
et al., 1980
- Peltigera canina (L.) Willd.: Nash & Sigal, 1981,  
Rushforth et al., 1980
- Peltigera canina var. rufescens (Weis) Mudd: Nash &  
Sigal, 1981, Rushforth et al., 1980
- Peltigera canina var. spuria (Ach.) Schaer.: Nash &  
Sigal, 1981, Rushforth et al., 1980
- Peltula euploca (Ach.) Oz. & Claud.: Nash & Sigal, 1981,  
Rushforth et al., 1980
- Phaeocalicium populneum (Brond ex Duby) Schmidt: Nash &  
Sigal, 1981, Rushforth et al., 1980
- Phaeophyscia ciliata (Hoffm.) Essl.: Nash & Sigal, 1981,  
Rushforth et al., 1980
- Phaeophyscia constipata (Norrl. et Nyl.) Moberg: Nash &  
Sigal, 1981, Rushforth et al., 1980
- Phaeophyscia endococcina (Körb.) Essl.: Nash & Sigal,  
1981, Rushforth et al., 1980
- Phaeophyscia hispidula (Ach.) Essl.: Nash & Sigal, 1981,  
Rushforth et al., 1980
- Phaeophyscia leana (Tuck.) Essl.: Nash & Sigal, 1981,  
Rushforth et al., 1980
- I Phaeophyscia orbicularis (Neck.) Moberg: Nash & Sigal,  
1981, Rushforth et al., 1980, Rushforth et al., 1982
- Phaeophyscia sciastra (Ach.) Moberg: Nash & Sigal, 1981,  
Rushforth et al., 1980, Rushforth et al., 1982, MIN HERB
- I Physcia adscendens (Th. Fr.) Oliv.: Nash & Sigal, 1981,  
Rushforth et al., 1980
- I Physcia aipolia (Ehrh.) Hampe: Nash & Sigal, 1981,  
Rushforth et al., 1980
- Physcia biziana Mass.: Nash & Sigal, 1981, Rushforth et  
al., 1980
- Physcia caesia (Hoffm.) Hampe: Nash & Sigal, 1981,  
Rushforth et al., 1980
- T Physcia dubia (Hoffm.) Lett.: Nash & Sigal, 1981,  
Rushforth et al., 1980
- Physcia phaea (Tuck.) Thoms.: Nash & Sigal, 1981,  
Rushforth et al., 1980
- I Physcia stellaris (L.) Nyl.: Nash & Sigal, 1981,  
Rushforth et al., 1980, Rushforth et al., 1982
- Physcia subtilis Degel.: Rushforth et al., 1980,  
Rushforth et al., 1982
- I Physcia tenella (Scop.) DC.: Nash & Sigal, 1981,  
Rushforth et al., 1980
- I Physconia deterosa (Nyl.) Poelt: Nash & Sigal, 1981,  
Rushforth et al., 1980, MIN HERB
- I Physconia deterosa f. isidigera (Zahlbr.) ined.: Nash &

- Sigal, 1981, Rushforth et al., 1980
- Physconia muscigena (Ach.) Poelt: Nash & Sigal, 1981,  
Rushforth et al., 1980, Rushforth et al., 1982, MIN HERB
- Physconia pulverulenta (Schreb.) Poelt: Rushforth et al.,  
1980, Rushforth et al., 1982
- Placynthium nigrum (Huds.) S. Gray: Nash & Sigal, 1981,  
Rushforth et al., 1980
- Polyblastia bryophila L  nnr.: Nash & Sigal, 1981,  
Rushforth et al., 1980
- Polychidium albociliatum (Desm.) Zahlbr.: Nash & Sigal,  
1981, Rushforth et al., 1980
- Protoblastenia rupestris (Scop.) J. Stein.: Nash & Sigal,  
1981, Rushforth et al., 1980
- Psorotichia schaereri (Mass.) Arn.: Nash & Sigal, 1981,  
Rushforth et al., 1980
- Pyrenopsis polycocca (Nyl.) Tuck.: Nash & Sigal, 1981,  
Rushforth et al., 1980
- S Ramalina obtusata (Arn.) Bitt.: Nash & Sigal, 1981,  
Rushforth et al., 1980
- Rhizocarpon disporum (Naeg. ex Hepp) M  ll. Arg.: Nash &  
Sigal, 1981, Rushforth et al., 1980, Rushforth et  
al., 1982
- Rhizocarpon geographicum (L.) DC.: Nash & Sigal, 1981,  
Rushforth et al., 1980
- Rhizocarpon riparium R  s.: Nash & Sigal, 1981, Rushforth  
et al., 1980
- Rhizoplaca chrysoleuca (Smith) Zopf: Nash & Sigal, 1981,  
Rushforth et al., 1980
- Rhizoplaca melanophthalma (Ram.) Leuck. & Poelt: Nash &  
Sigal, 1981, Rushforth et al., 1980
- Rinodina pyrina (Ach.) Arn.: Nash & Sigal, 1981,  
Rushforth et al., 1980, Rushforth et al., 1982
- Rinodina tephraspis (Tuck.) Herre: Nash & Sigal, 1981,  
Rushforth et al., 1980
- Rinodina violascens Magn.: Nash & Sigal, 1981, Rushforth  
et al., 1980
- Sarcogyne regularis K  rb.: Nash & Sigal, 1981, Rushforth  
et al., 1980
- Sarcogyne simplex (Dav.) Nyl.: Nash & Sigal, 1981,  
Rushforth et al., 1980, MIN HERB
- Staurothele clopima (Wahlenb. ex Ach.) Th. Fr.: Nash &  
Sigal, 1981, Rushforth et al., 1980, Rushforth et  
al., 1980, MIN HERB
- Staurothele monicae (Zahlbr.) ined.: MIN HERB
- Stereocaulon albicans Th. Fr.: Nash & Sigal, 1981,  
Rushforth et al., 1980
- Toninia caeruleonigricans (Lightf.) Th. Fr.: Nash &  
Sigal, 1981, Rushforth et al., 1980, Rushforth et  
al., 1982, MIN HERB
- Toninia candida (Web.) Th. Fr.: Nash & Sigal, 1981,  
Rushforth et al., 1980
- Toninia massata (Tuck.) Herre: Nash & Sigal, 1981,  
Rushforth et al., 1980
- Toninia tristis (Th. Fr.) Th. Fr.: Nash & Sigal, 1981,  
Rushforth et al., 1980, MIN HERB

- Umbilicaria phaea Tuck.: Nash & Sigal, 1981, Rushforth et al., 1980
- S-I Usnea subfloridana Stirt.: Nash & Sigal, 1981, Rushforth et al., 1980
- Verrucaria fuscella (Turn.) Arn.: Nash & Sigal, 1981, Rushforth et al., 1980
- Verrucaria hydrella Ach.: Nash & Sigal, 1981, Rushforth et al., 1980
- Verrucaria margacea Wahlenb.: Nash & Sigal, 1981, Rushforth et al., 1980
- Verrucaria muralis Ach.: Nash & Sigal, 1981, Rushforth et al., 1980
- Verrucaria viridula (Schr.) Ach.: Nash & Sigal, 1981, Rushforth et al., 1980
- Xanthoria elegans (Link) Th. Fr.: Nash & Sigal, 1981, Rushforth et al., 1980, MIN HERB
- S-I Xanthoria fallax (Hepp) Arn.: Nash & Sigal, 1981, Rushforth et al., 1980, Rushforth et al., 1982, MIN HERB
- I Xanthoria polycarpa (Ehrh.) Oliv.: Nash & Sigal, 1981, Rushforth et al., 1980, Rushforth et al., 1982

#### ZION REFERENCES

- Nash, T. H. & L. L. Sigal. 1981. Preliminary study on the lichens of Zion National Park, Utah. Jour. Arizona-Nevada Acad. Sci. 16:46-50.
- Rushforth, S. R., L. L. St. Clair, J. D. Brotherson & G. T. Nebeker. 1980. Ecology of lichen communities in Zion National Park. Report to National Park Service. (Unpublished)
- Rushforth, S. R., L. L. St. Clair, J. D. Brotherson & G. T. Nebeker. 1982. Lichen community structure in Zion National Park. Bryologist 85:185-192.

## APPENDIX

### LICHENS SENSITIVE TO SULFUR DIOXIDE

#### Introduction

These lists are based on the literature and include only North American species. In compiling the lists most of the literature has been checked but only those references giving field sulfur dioxide values and presence or absence limits for the species are listed. References pertaining only to field and laboratory fumigation experiments have not been included when they are for short periods because the mechanism of damage for acute short-term damage is not the same as chronic long-term damage. Long-term chronic fumigation produces damage at much lower levels and is more useful in assessing field conditions. Some European references are included because they include European species also found in North America. With these requirements, only 21 references were found that provided the sensitivity values necessary for inclusion. Species of uncertain identification are enclosed in quotes. In the first column the letters indicate sensitivity categories: S = sensitive, I = intermediate, T = tolerant. Sensitive species are those which are present below 50  $\mu\text{g}$  per cubic meter (average annual levels), intermediate species are present where levels are between 50  $\mu\text{g}$  per cubic meter and 100  $\mu\text{g}$  per cubic meter, tolerant species are found where levels are above 100  $\mu\text{g}$  per cubic meter. S-I and I-T are intermediate between the three main categories. The columns of numbers after the species names are the published limits of presence and absence in micrograms per cubic meter. Most values are

based on averages for one or more years but some are partly based on average winter concentrations over several years. The numbers before the slash are for presence limits while the numbers after the slash indicate published limits of absence. In some cases one or the other may be unknown or not indicated. In other cases different authors do not agree on the sensitivity and for these either a range has been given or some widely divergent records have not been included.

This list includes 157 species with known sensitivity to chronic field levels of sulfur dioxide. There are about 2800 lichens known from North America north of Mexico.

#### LICHENS BY SENSITIVITY CATEGORY

The species in this list have been arranged in order of decreasing sensitivity to sulfur dioxide according to the absence values except where personal observations or other information would indicate that the published numbers may not be characteristic. The numbers in the next to the last column are the numbers for the references for that species. The last column indicates whether the thallus of the species is fruticose (FR), foliose (FO), or crustose (CR). A fruticose thallus is shrubby and stands up from the substrate or hangs down from trees and has algae all the way around the thallus. Foliose and crustose lichens have only a single layer of algae under the upper surface. Foliose lichens are leaf-like and are loosely attached to the substrate while crustose lichens are closely attached to the substrate and cannot be removed from it without destroying the thallus.

Cat.	Species	Presence/Absence	Ref.	Thallus
S	<u>Evernia divaricata</u>	10/-	1	FR
S	<u>Lecanactis abietina</u>	10/-	1	CR
S	<u>Ramalina americana</u>	13/13-26	1	FR
S	<u>Rinodina papillata</u>	13/13-26	1	CR
S	<u>Lecidea nylanderi</u>	13/13-26	1	CR
S	<u>Lecidea vernalis</u>	26/26-34	1	CR
S	<u>Lobaria pulmonaria</u>	26/26-34	3	FO
S	<u>Bryoria furcellata</u>	13-26/26-52	1	FR
S	<u>Bryoria trichodes</u>	13-26/26-52	1	FR
S	<u>Catillaria griffithii</u>	26/-	1	CR
S	<u>Usnea variolosa</u>	26/-	1	FR
S	<u>Bryoria implexa</u>	10-30/-	1	FR
S	<u>Bryoria "jubata"</u>	10-30/-	1	FR
S	<u>Cetraria chlorophylla</u>	10-30/-	1	FO
S	<u>Hypogymnia tubulosa</u>	10-30/-	1	FO
S	<u>Opegrapha diaphora</u>	10-30/-	1	CR
S	<u>Opegrapha pulicaris</u>	10-30/-	1	CR
S	<u>Parmelia subaurifera</u>	10-30/-	1	FO
S	<u>Usnea filipendula</u>	10-30/-	1	FR
S	<u>Dimerella lutea</u>	30/-	1	CR
S	<u>Usnea articulata</u>	30/-	1	FR
S	<u>Usnea florida</u>	30/-	1	FR
S	<u>Ochrolechia "rosella"</u>	26-34/34-52	1	CR
S	<u>Lecidea "cinnabarina"</u>	26-34/34-52	1	CR
S	<u>Ochrolechia androgyna</u>	26-34/34-52	2	CR
S	<u>Caloplaca flavorubescens</u>	30/35	2	CR
S	<u>Physcia leptalea</u>	30/35	1	FO
S	<u>Ramalina calicaris</u>	30/35	2	FR
S	<u>Ramalina fraxinea</u>	30/35	3	FR
S	<u>Ramalina subfarinacea</u>	30/35	1	FR
S	<u>Usnea ceratina</u>	35/-	2	FR
S	<u>Parmelia squarrosa</u>	26-39/40	1	FO
S	<u>Gyalecta flotowii</u>	35/40	1	CR
S	<u>Parmelia perlata</u> <i>concolor?</i>	35/40	5	FO
S	<u>Parmelia reticulata</u>	35/40	1	FO
S	<u>Ramalina evernioides</u>	35/40	1	FR
S	<u>Ramalina obtusata</u>	35/40	1	FO
S	<u>Ramalina pollinaria</u>	35/40	2	FR
S	<u>Usnea rubiginea</u>	35/40	1	FR
S-I	<u>Cladonia fimbriata</u>	13/13-26	1	FR
S-I	<u>Xanthoria fallax</u>	13/13-26	1	FO
S-I	<u>Arthonia impolita</u>	40/-	1	CR
S-I	<u>Rinodina roboris</u>	40/-	1	CR
S-I	<u>Usnea subfloridana</u>	40/-	2	FR
S-I	<u>Caloplaca cerina</u>	30/50	5	CR
S-I	<u>Normandina pulchella</u>	35/50	2	CR
S-I	<u>Candelaria concolor</u>	13-40/50	4	CR
S-I	<u>Anaptychia setifera</u> <i>Opegrapha?</i>	40/50	8	FO
S-I	<u>Candelariella xanthostigma</u>	50/-	2	CR
S-I	<u>Cetraria ciliaris</u>	13-52/-	2	FO
S-I	<u>Usnea hirta</u>	30-80/-	1	FR



I	<u>Parmelia rudecta</u>	13-26/52	2	FO
I	<u>Buellia stillingiana</u>	13-52/52-78	3	CR
I	<u>Parmelia trabeculata</u>	13-52/52-78	3	FO
I	<u>Cladonia cristatella</u>	26-52/52-78	1	FR
I	<u>Rinodina halei</u>	26-52/52-78	2	CR
I	<u>Physconia detersa</u>	26-52/52-78	2	FO
I	<u>Parmelia olivacea</u>	30-52/52-78	2	FO
I	<u>Alectoria sarmentosa</u>	34-52/52-78	1	FR
I	<u>Cladonia coniocraea</u>	34-52/52-78	3	FR
I	<u>Haematomma ochrophaeum</u>	34-52/52-78	1	CR
I	<u>Lecanora coilocarpa</u>	34-52/52-78	2	CR
I	<u>Lecanora symmictera</u>	34-52/52-78	4	CR
I	<u>Lecidea albofuscescens</u>	34-52/52-78	1	CR
I	<u>Lopadium pezizoideum</u>	34-52/52-78	1	CR
I	<u>Mycoblastus affinis</u>	34-52/52-78	1	CR
I	? <u>Parmelia glabratula</u>	34-52/52-78	3	FO
I	? <u>Parmelia saxatilis</u>	34-52/52-78	3	FO
I	<u>Parmelia septentrionalis</u>	34-52/52-78	2	FO
I	<u>Pertusaria multipunctoides</u>	34-52/52-78	2	CR
I	<u>Ramalina dilacerata</u>	34-52/52-78	1	FR
I	<u>Stenocybe major</u>	34-52/52-78	1	CR
I	<u>Parmelia caperata</u>	40-50/55	7	FO
I	<u>Teloschistis flavicans</u>	-/60	1	FR
I	<u>Xanthoria polycarpa</u>	13-50/60	3	CR
I	<u>Parmelia exasperatula</u>	30-80/60	4	FO
I	? <u>Arthopyrenia alba</u> <i>Arund. gen.</i>	50/60	1	CR
I	<u>Graphis elegans</u>	50/60	2	CR
I	<u>Hyperphyscia adglutinata</u>	50/60	1	FO
I	<u>Lecania cyrtella</u>	50/60	3	CR
I	<u>Parmelia revoluta</u>	50/60	2	FO
I	<u>Pertusaria albescens</u>	50/60	2	CR
I	<u>Pertusaria hymenea</u>	50/60	1	CR
I	<u>Physconia pulveracea</u>	50/60	7	FO
I	<u>Calicium viride</u>	60/-	1	CR
I	<u>Pertusaria amara</u>	60/-	2	CR
I	<u>Lecanactis premnea</u>	-/65	1	CR
I	<u>Nephroma laevigatum</u>	-/65	1	FO
I	? <u>Opegrapha atra</u>	-/65	1	CR
I	<u>Peltigera horizontalis</u>	-/65	1	FO
I	<u>Phaeographis dendritica</u>	-/65	1	CR
I	<u>Physcia millegrana</u>	-/65	1	FO
I	? <u>Pyrenula nitida</u>	-/65	1	CR
I	<u>Parmeliopsis aleurites</u>	10/65	2	FO
I	<u>Graphis scripta</u>	10-30/65	2	CR
I	<u>Arthopyrenia biformis</u>	40/65	2	CR
I	<u>Bacidia rubella</u>	40/65	2	CR
I	<u>Physcia aipolia</u>	26-50/65	6	FO
I	<u>Physcia stellaris</u>	26-52/65	3	FO
I	<u>Chrysothrix candelaris</u>	60/65	2	CR
I	<u>Parmelia subrudecta</u>	60/65	3	FO
I	<u>Arthonia radiata</u>	30-80/65	2	CR
I	<u>Lecidella elaeochroma</u>	30-80/65	2	CR
I	<u>Evernia prunastri</u>	50-65/-	4	FR
I	? <u>Physconia farrea</u>	13-60/70	2	FO
I	<u>Bryoria fuscescens</u>	60/70	2	FR

I	<u>Buellia alboatra</u>	60/70	1	CR
I	<u>Haematomma porphyrium</u>	60/70	1	CR
I	<u>Opegrapha varia</u>	60/70	1	CR
I	<u>Opegrapha vulgata</u>	60/70	1	CR
I	<u>Physcia tenella</u>	60/70	2	FO
I	<u>Schismatomma decolorans</u>	60/70	1	CR
I	<u>Xanthoria candelaria</u>	60/70	2	FO
I	<u>Lecanora chlarotera</u>	60-70/70	2	CR
I	<u>Chaenotheca ferruginea</u>	70/-	1	CR
I	<u>Lecidea scalaris</u>	70/-	2	CR
I	<u>Xanthoria parietina</u>	70/70-90	6	FO
I	<u>Physconia grisea</u>	60-80/70-90	5	FO
I	<u>Cetraria pinastri</u>	26-60/78	4	FO
I	<u>Evernia mesomorpha</u>	26-60/78	2	FR
I	<u>Parmeliopsis ambigua</u>	52-65/78	5	FO
I	<u>Hypogymnia physodes</u>	52-70/78	10	FO
I	<u>Cetraria sepincola</u>	52-78/78	2	FO
I	<u>Lecanora subintricata</u>	52-78/78	1	CR
I	<u>Alectoria capillaris</u>	52-78/-	1	FR
I	<u>Cetraria orbata</u>	52-78/-	1	FO
I	<u>Mycoblastus sanguinarius</u>	52-78/-	2	CR
I	<u>Parmeliopsis hyperopta</u>	52-78/-	1	FO
I	<u>Platismatia glauca</u>	52-78/-	2	FO
I	<u>Bacidia chlorococca</u>	78/-	2	CR
I	<u>Lecanora saligna</u>	78/-	1	CR
I	<u>Lecanora subfusca</u>	26-78/80	4	CR
I	<u>Candelariella vitellina</u>	52-78/80	2	CR
I	<u>Caloplaca holocarpa</u>	30-80/-	1	CR
I	<u>Lecanora allophana</u>	30-80/-	1	CR
I	<u>Lecanora chlarona</u>	30-80/-	1	CR
I	<u>Lecanora pallida</u>	30-80/-	1	CR
I	<u>Lecanora subrugosa</u>	30-80/-	1	CR
I	<u>Rinodina exigua</u>	30-80/-	1	CR
I	<u>Lecanora carpinea</u>	30-80/80-90	2	CR
I	<u>Phlyctis argena</u>	50-80/90	1	CR
I	<u>Physcia adscendens</u>	50-80/90	7	FO
I	<u>Phaeophyscia orbicularis</u>	60-80/90	6	FO
I-T	<u>Buellia canescens</u>	60-70/90-125	1	CR
I-T	<u>Parmelia sulcata</u>	52-100/95	11	FO
I-T	<u>Caloplaca vitellinula</u>	80-100/-	1	CR
I-T	<u>Parmelia subargentifera</u>	80-100/-	1	FO
I-T	<u>Phaeophyscia nigricans</u>	80-100/-	1	FO
I-T	<u>Phlyctis agelaea</u>	80-100/-	1	CR
I-T	<u>Lepraria incana</u>	125/-	1	CR
T	<u>Lecanora expallens</u>	52-125/125	3	CR
T	<u>Buellia punctata</u>	90-110/125	3	CR
T	<u>Physcia dubia</u>	90-110/125	2	FO
T	<u>Lecanora muralis</u>	125-200/240	2	CR
T	<u>Lecanora hageni</u>	100-300/-	1	CR
T	<u>Lepraria aeruginosa</u>	100-300/-	2	CR
T	<u>Lecanora dispersa</u>	364-468/-	1	CR

# ALPHABETICAL LIST OF SPECIES

This list has been arranged alphabetically by genus and species. The first column indicates sensitivity category, the third column gives published limits of presence before the slash and absence after the slash. The last column gives the literature references.

Cat.	Species	Presence/Absence	References
I	<del>Bryoria</del> <u>Alectoria capillaris</u>	52-78/-	(13)
I	<u>Alectoria sarmentosa</u>	34-52/52-78	(13)
S-I	<u>Anaptychia setifera</u>	40/50	(2,3,4,6, 7,8,19,5)
S-I	<u>Arthonia impolita</u>	40/-	(4)
I	<u>Arthonia radiata</u>	30-80/65	(19,5)
I	<u>Arthopyrenia alba</u>	50/60	(4)
I	<u>Arthopyrenia biformis</u>	40/65	(4,5)
I	<u>Bacidia chlorococca</u>	78/-	(9,10)
I	<u>Bacidia rubella</u>	40/65	(4,5)
S	<u>Bryoria furcellata</u>	13-26/26-52	(10)
I	<u>Bryoria fuscescens</u>	60/70	(4,5)
S	<u>Bryoria implexa</u>	10-30/-	(19)
S	<u>Bryoria "jubata"</u>	10-30/-	(19)
S	<u>Bryoria trichodes</u>	13-26/26-52	(10)
I	<u>Buellia alboatra</u>	60/70	(4)
I-T	<u>Buellia canescens</u>	60-70/90-125	(2,4)
T	<u>Buellia punctata</u>	90-110/125	(3,4,7)
I	<u>Buellia stillingiana</u>	13-52/52-78	(9,10,13)
I	<u>Calicium viride</u>	60/-	(4)
S-I	<u>Caloplaca cerina</u>	30/50	(4,9,10, 19,5)
S	<u>Caloplaca flavorubescens</u>	30/35	(4,19)
I	<u>Caloplaca holocarpa</u>	30-80/-	(19)
I-T	<u>Caloplaca vitellinula</u>	80-100/-	(19)
S-I	<u>Candelaria concolor</u>	13-40/50	(4,10,19,5)
I	<u>Candelariella vitellina</u>	52-78/80	(10,19)
S-I	<u>Candelariella xanthostigma</u>	50/-	(9,19)
S	<u>Catillaria griffithii</u>	26/-	(9)
S	<u>Cetraria chlorophylla</u>	10-30/-	(19)
S-I	<u>Cetraria ciliaris</u>	13-52/-	(9,10)
I	<u>Cetraria orbata</u>	52-78/-	(13)
I	<u>Cetraria <del>pitri</del> pinastri</u>	26-60/78	(9,10,13,19)
I	<u>Cetraria sepincola</u>	52-78/78	(10,13)
I	<u>Chaenotheca ferruginea</u>	70/-	(4)
I	<u>Chrysothrix candelaris</u>	60/65	(4,5)
I	<u>Cladonia coniocraea</u>	34-52/52-78	(9,10,13)
I	<u>Cladonia cristatella</u>	26-52/52-78	(10)
S-I	<u>Cladonia fimbriata</u>	13/13-26	(10)

S	<u>Dimerella lutea</u>	30/-	(4)
S	<u>Evernia divaricata</u>	10/-	(19)
I	<u>Evernia mesomorpha</u>	26-60/78	(9,10)
I	<u>Evernia prunastri</u>	50-65/-	(6,16,19)
I	<u>Graphis elegans</u>	50/60	(4,5)
I	<u>Graphis scripta</u>	10-30/65	(19,5)
S	<u>Gyalecta flotowii</u>	35/40	(4)
I	<u>Haematomma ochrophaeum</u>	34-52/52-78	(13)
I	<u>Haematomma porphyrium</u>	60/70	(4)
I	<u>Hyperphyscia adglutinata</u>	50/60	(4)
I	<u>Hypogymnia physodes</u>	52-70/78	(3,4,7,8,9,10 13,15,16,19)
S	<u>Hypogymnia tubulosa</u>	10-30/-	(19)
S	<u>Lecanactis abietina</u>	10/-	(19)
I	<u>Lecanactis premnea</u>	-/65	(5)
I	<u>Lecania cyrtella</u>	50/60	(4,9,19)
I	<u>Lecanora allophana</u>	30-80/-	(19)
I	<u>Lecanora carpinea</u>	30-80/80-90	(3,7,19)
I	<u>Lecanora chlarona</u> = <i>pulicaris</i>	30-80/-	(19)
I	<u>Lecanora chlarotera</u>	60-70/70	(3,4,19)
I	<u>Lecanora coilocarpa</u> = <i>circumborealis</i>	34-52/52-78	(13,19) 16,19,20)
T	<u>Lecanora dispersa</u>	364-468/-	(11)
T	<u>Lecanora expallens</u>	52-78/125	(1,4,10)
T	<u>Lecanora hageni</u>	100-300/-	(19)
T	<u>Lecanora muralis</u>	125-200/240	(20,5)
I	<u>Lecanora pallida</u>	30-80/-	(19)
I	<u>Lecanora saligna</u>	78/-	(10)
I	<u>Lecanora subfusca</u> = <i>argentea</i>	26-78/80	(3,7,10,19)
I	<u>Lecanora subintricata</u>	52-78/78	(10)
I	<u>Lecanora subrugosa</u>	30-80/-	(19)
I	<u>Lecanora symmictera</u>	34-52/52-78	(9,10,13,19)
I	<u>Lecidea albofuscescens</u>	34-52/52-78	(13)
S	<u>Lecidea "cinnabarina"</u>	26-34/34-52	(13)
S	<u>Lecidea nylanderii</u>	13/13-26	(10)
I	<u>Lecidea scalaris</u>	70/-	(4,19)
S	<u>Lecidea vernalis</u>	26/26-34	(13)
I	<u>Lecidella elaeochroma</u>	30-80/65	(19,5)
T	<u>Lepraria aeruginosa</u>	100-300/-	(10,19)
I-T	<u>Lepraria incana</u>	125/-	(7)
S	<u>Lobaria pulmonaria</u>	26/26-34	(4,13,17,19)
I	<u>Lopadium pezizoideum</u>	34-52/52-78	(13)
I	<u>Mycoblastus affinis</u>	34-52/52-78	(13)
I	<u>Mycoblastus sanguinarius</u>	52-78/-	(13,19)
I	<u>Nephroma laevigatum</u>	-/65	(5)
S-I	<u>Normandina pulchella</u>	35/50	(4,5)
S	<u>Ochrolechia androgyna</u>	26-34/34-52	(13,19)
S	<u>Ochrolechia "rosella"</u>	26-34/34-52	(13)
I	<u>Opegrapha atra</u>	-/65	(5)
S	<u>Opegrapha diaphora</u>	10-30/-	(19)
S	<u>Opegrapha pulicaris</u>	10-30/-	(19)
I	<u>Opegrapha varia</u>	60/70	(4)
I	<u>Opegrapha vulgata</u>	60/70	(4)
I	<u>Parmelia caperata</u>	40-50/55	(4,6,8,9, 16,18,5)

I	<u>Parmelia exasperatula</u>	30-80/60	(4,8,10,19)
I	<u>Parmelia glabratula</u>	34-52/52-78	(4,13,16)
I	<u>Parmelia olivacea</u>	30-52/52-78	(10,19)
S	<u>Parmelia perlata</u>	35/40	(4,6,8,16,5)
S	<u>Parmelia reticulata</u>	35/40	(4)
I	<u>Parmelia revoluta</u>	50/60	(4,5)
I	<u>Parmelia rudecta</u>	13-26/52	(10,18)
I	<u>Parmelia saxatilis</u>	34-52/52-78	(4,13,20)
I	<u>Parmelia septentrionalis</u>	34-52/52-78	(10,13)
S	<u>Parmelia squarrosa</u>	26-39/40	(14)
I-T	<u>Parmelia subargentifera</u>	80-100/-	(19)
S	<u>Parmelia subaurifera</u>	10-30/-	(19)
I	<u>Parmelia subrudecta</u>	60/65	(4,16,18)
I-T	<u>Parmelia sulcata</u>	52-100/95	(3,4,7,8, 9,10,12,13, 14,16,18,19)
I	<u>Parmelia trabeculata</u>	13-52/52-78	(9,10,13)
I	<u>Parmeliopsis aleurites</u>	10/65	(19,5)
I	<u>Parmeliopsis ambigua</u>	52-65/78	(4,6,10, 13,19)
I	<u>Parmeliopsis hyperopta</u>	52-78/-	(13)
I	<u>Peltigera horizontalis</u>	-/65	(5)
I	<u>Pertusaria albescens</u>	50/60	(4,19)
I	<u>Pertusaria amara</u>	60/-	(4,19)
I	<u>Pertusaria hymenea</u>	50/60	(4)
I	<u>Pertusaria multipunctoides</u>	34-52/52-78	(10,13)
I	<u>Phaeographis dendritica</u>	-/65	(5)
I-T	<u>Phaeophyscia nigricans</u>	80-100/-	(19)
I	<u>Phaeophyscia orbicularis</u>	60-80/90	(3,4,7, 8,10,19)
I-T	<u>Phlyctis agelaea</u>	80-100/-	(19)
I	<u>Phlyctis argena</u>	50-80/90	(19)
I	<u>Physcia adscendens</u>	50-80/90	(2,3,4,7, 8,10,19)
I	<u>Physcia aipolia</u>	26-50/65	(4,8,9, 10,19,5)
T	<u>Physcia dubia</u>	90-110/125	(3,7)
S	<u>Physcia leptalea</u>	30/35	(4)
I	<u>Physcia millegrana</u>	-/65	(18)
I	<u>Physcia stellaris</u>	26-52/65	(9,10,18)
I	<u>Physcia tenella</u>	60/70	(4,19)
I	<u>Physconia deterosa</u>	26-52/52-78	(9,10)
I	<u>Physconia farrea</u>	13-60/70	(4,10)
I	<u>Physconia grisea</u>	60-80/70-90	(2,3,4,7,19)
I	<u>Physconia pulveracea</u> <i>-dist.</i>	50/60	(2,3,4,7, 8,19,5)
I	<u>Platismatia glauca</u>	52-78/-	(13,19)
I	<u>Pyrenula nitida</u>	-/65	(5)
S	<u>Ramalina americana</u>	13/13-26	(10)
S	<u>Ramalina calicaris</u>	30/35	(4,5)
I	<u>Ramalina dilacerata</u>	34-52/52-78	(13)
S	<u>Ramalina evernioides</u>	35/40	(4)
S	<u>Ramalina farinacea</u>	60/70	(4,8,19)
S	<u>Ramalina fraxinea</u>	30/35	(4,19,5)
S	<u>Ramalina obtusata</u>	35/40	(4)

S	<u>Ramalina</u> <u>pollinaria</u>	35/40	(4,19)
I	<u>Rinodina</u> <u>exigua</u>	30-80/-	(19)
I	<u>Rinodina</u> <u>halei</u>	26-52/52-78	(9,10)
S	<u>Rinodina</u> <u>papillata</u>	13/13-26	(10)
S-I	<u>Rinodina</u> <u>roboris</u>	40/-	(4)
I	<u>Stenocybe</u> <u>major</u>	34-52/52-78	(13)
I	<u>Teloschistis</u> <u>flavicans</u>	-/65	(5)
S	<u>Usnea</u> <u>articulata</u>	30/-	(6)
S	<u>Usnea</u> <u>ceratina</u>	35/-	(4,6)
S	<u>Usnea</u> <u>filipendula</u>	10-30/-	(19)
S	<u>Usnea</u> <u>florida</u>	30/-	(4)
S-I	<u>Usnea</u> <u>hirta</u>	30-80/-	(19)
S	<u>Usnea</u> <u>rubiginea</u>	35/40	(4)
S-I	<u>Usnea</u> <u>subfloridana</u>	40/-	(4,19)
S	<u>Usnea</u> <u>variolosa</u>	26/-	(9)
I	<u>Xanthoria</u> <u>candelaria</u>	60/70	(4,19)
S-I	<u>Xanthoria</u> <u>fallax</u>	13/13-26	(10)
I	<u>Xanthoria</u> <u>parietina</u>	70/70-90	(2,4,7,7B, 8,19,20)
I	<u>Xanthoria</u> <u>polycarpa</u>	13-50/60	(4,10,19)

---

#### SULFUR DIOXIDE REFERENCES

- 1 De Wit, T. 1976. Epiphytic lichens and air pollution in the Netherlands. *Bibliotheca Lich.* 5: 228pp.
- 2 Deruelle, S. 1977. Influence de la Pollution Atmosphérique sur la Vegetation Lichenique des Arbres Isoles Dans la Region De Mantes (Yvelines). *Rev. Bryol. Lichenol.* 43(2):137-158(35-56).
- 3 Deruelle, S. 1978. Les lichens et la pollution atmosphérique. *Bull. Ecol.* 9(2):87-128.
- 4 Hawksworth, D. L. & F. Rose. 1970. Qualitative scale for estimating sulphur dioxide air pollution in England and Wales using epiphytic lichens. *Nature* 277:145-148.
- 5 Hawksworth, D. L. & F. Rose. 1976. *Lichens as Pollution Monitors.* Camelot Press Ltd, Southampton, Great Britian.
- 6 Hawksworth, D. L., F. Rose & B. J. Coppins. 1973. Changes in the lichen flora of England and Wales attributable to pollution of the air by sulphur dioxide. Pp. 330-367. In Ferry, B. W., M. S. Baddeley, & D. L. Hawksworth, (eds.) 1973. *Air Pollution and Lichens*, London.
- 7 Johnsen, I. & U. Sochting. 1973. Influence of air pollution on the epiphytic lichen vegetation and bark properties of deciduous trees in the Copenhagen area. *Oikos* 24:344-351.
- 7B Johnsen, I. & U. Sochting. 1976. Distribution of cryptogamic epiphytes in a Danish city in relation to air pollution and bark properties. *Bryologist* 79:86-92.



- 8 Jürging, P. 1975. Epiphytische Flechten als Bioindikatoren der Luftverunreinigung. Bibliotheca Lich. 4: 165pp.
- 9 LeBlanc, F. 1969. Epiphytes and air pollution. In "Air Pollution, Proceedings of the First European Congress on the Influence of Air Pollution on Plants and Animals." Wageningen.
- 10 LeBlanc, F., D. N. Rao & G. Comeau. 1972. The epiphytic vegetation of Populus balsamifera and its significance as an air pollution indicator in Sudbury, Ontario. Can. Jour. Bot. 50:519-528.
- 11 LeBlanc, F. & D. N. Rao. 1973.<sup>a</sup> Evaluation of the pollution and drought hypotheses in relation to lichens and bryophytes in urban environments. Bryologist 76: 1-19.
- 12 LeBlanc, F. & D. N. Rao. 1973.<sup>b</sup> Effects of sulphur dioxide on lichen and moss transplants. Ecology 54:612-617.
- 13 LeBlanc, F., G. Robitaille & D. N. Rao. 1974. Biological response of lichens and bryophytes to environmental pollution in the Murdochville Copper Mine Area, Quebec. Jour. Hattori Bot. Lab. 38:405-433.
- 14 LeBlanc, F., G. Robitaille & D. N. Rao. 1976. Ecophysiological response of lichen transplants to air pollution in the Murdochville Gaspé Copper Mines Area, Quebec. Jour. Hattori Bot. Lab. 40:27-40.
- 15 Margot, J. 1973. Experimental study of the effects of sulphur dioxide on the soredia of Hypogymnia physodes. Pp. 314-329. In Ferry, B. W., M. S. Baddeley, & D. L. Hawksworth (eds.) 1973. Air Pollution and Lichens, London.
- 16 Morgan-Huws, D. I. & F. N. Haynes. 1973. Distribution of some epiphytic lichens around an oil refinery at Fawley, Hampshire. Pp. 89-108. In Ferry, B. W., M. S. Baddeley, & D. L. Hawksworth (eds.) 1973. Air Pollution and Lichens, London.
- 17 Nash, T. H. 1976. Lichens as indicators of air pollution. Naturwissenschaftler 63:364-367.
- 18 Showman, R. E. 1975. Lichens as indicators of air quality around a coal-fired power generating plant. Bryologist 78: 1-16.
- 19 Trass, H. 1973. Lichen sensitivity to the air pollution and index of poleotolerance (I.P.). Fol. Crypt. Est., Tartu, 3:19-22.
- 20 Vick, C. M. & R. Bevan. 1976. Lichens and tar spot fungus (Rhytisma acerinum) as indicators of sulphur dioxide pollution on Mereyside. Environ. Pollut. 11:203-216.

